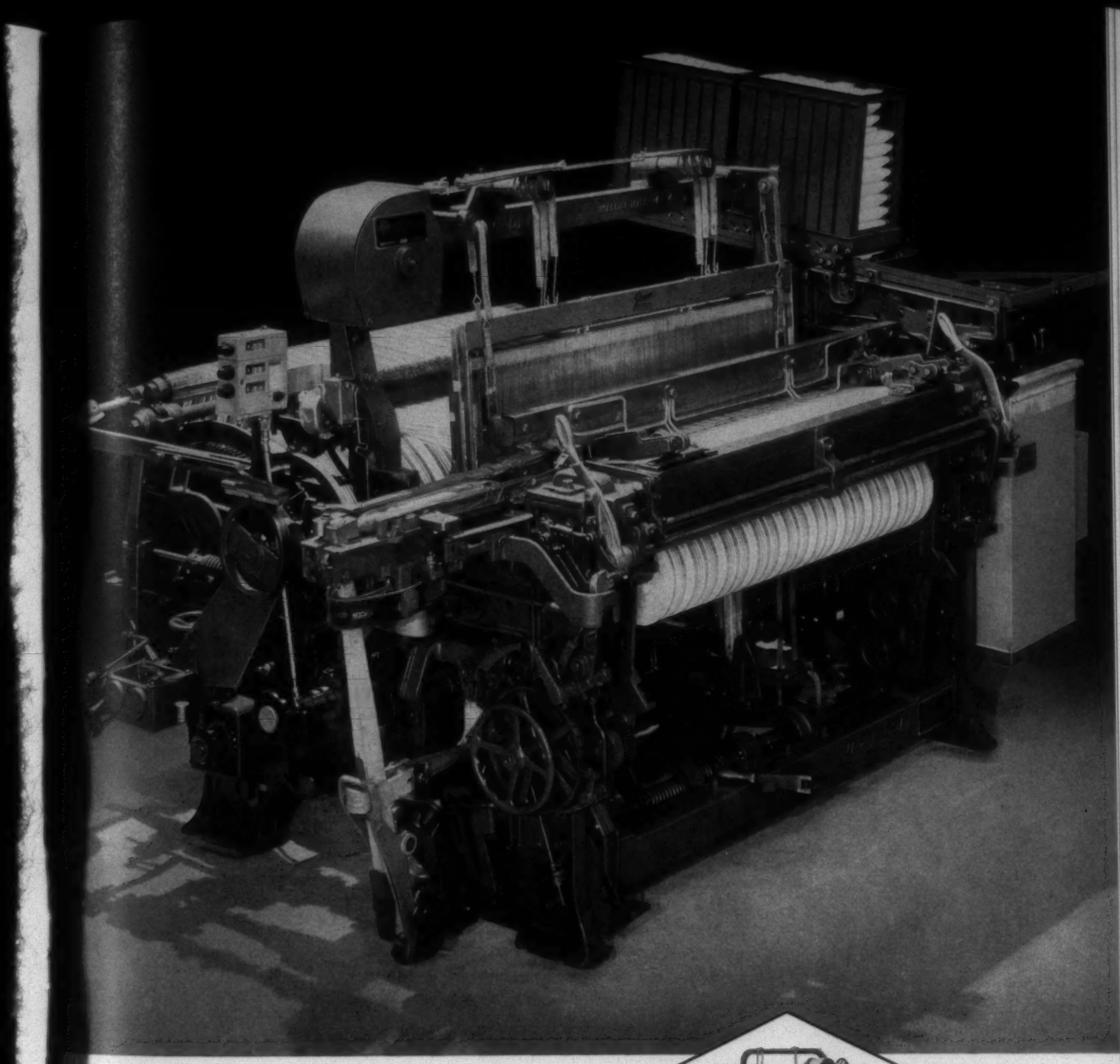
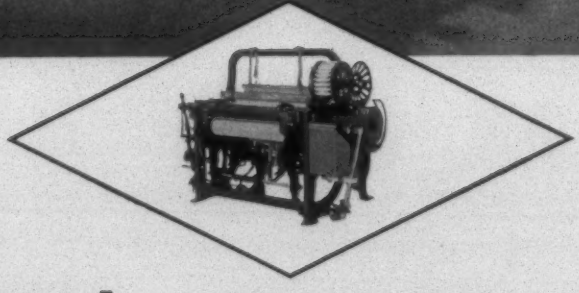




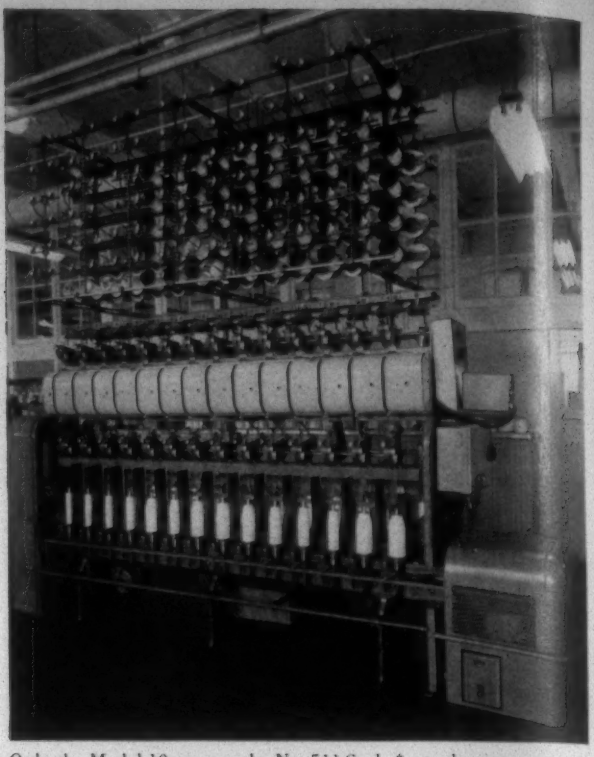
Obsolescence is natural . . . in textile machinery because of continual research and development • Modern Draper looms with countless new improvements save time and money in weave sheds throughout the world • New Draper looms keep your mill in a competitive position in todays changing markets.

DRAPER CORPORATION

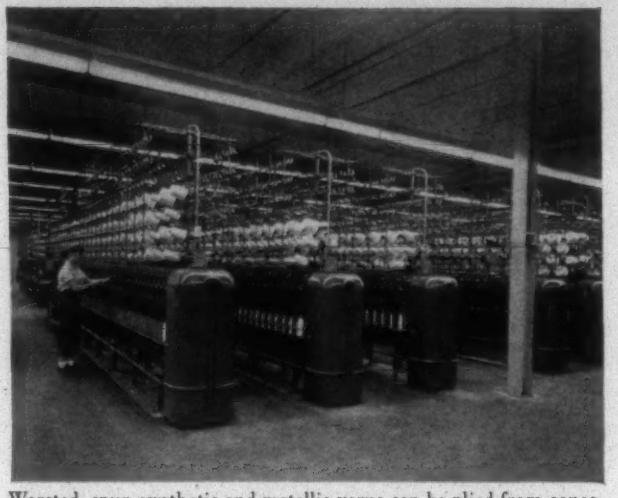
HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N.C. • SPARTANBURG, S.C.

See Some of Many Results You Get

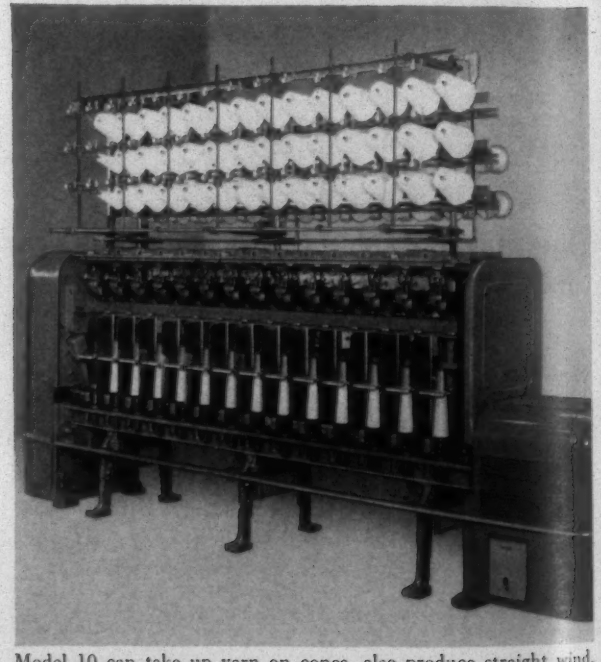
from the Model 10 Ring Twister



Only the Model 10 can use the No. 511 Saaba* attachment, to process uniform, top quality Saaba, the last word in textured yarn.



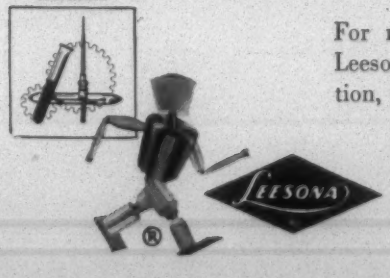
Worsted, spun synthetic and metallic yarns can be plied from cones, and taken up on large packages.



Model 10 can take up yarn on cones, also produce straight wind, taper-top, and double tapered packages (filling or warp wind).

Glass yarn can be twisted from pirns to double-taper packages, and be used for filling and warping without rewinding.

Member American Textile Machinery Association



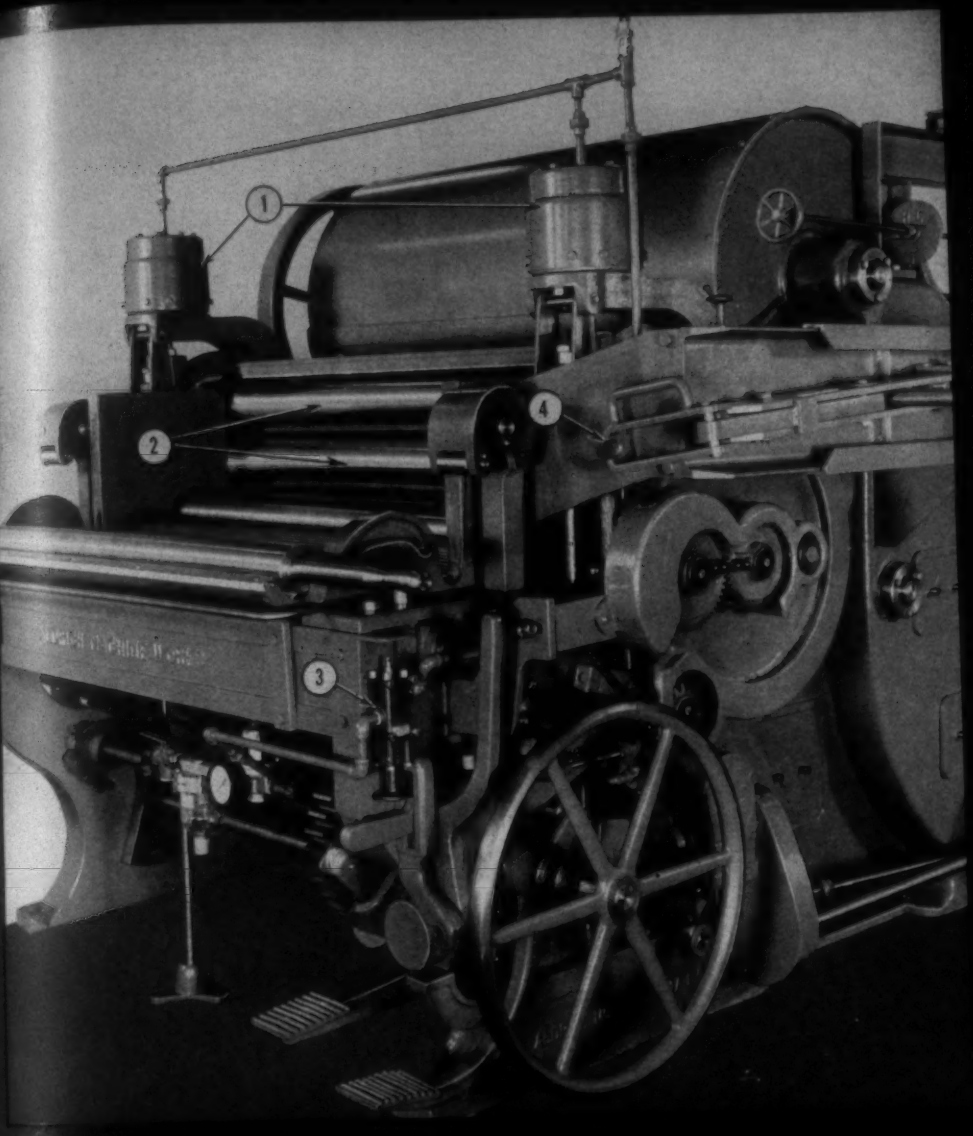
29.7.7

For more information on how the versatile, low-maintenance, Leesona Model 10 Ring Twister can improve your twisting production, write for Bulletin 10-A.

UNIVERSAL WINDING COMPANY, P. O. Box 1605, Providence 1, R. I.

Sales Offices: Boston, Philadelphia, Charlotte, Atlanta, Los Angeles; Montreal, Hamilton, Canada; Manchester, England; Paris, France; Basle, Switzerland.

SAABA is a trademark of Universal Winding Company



1

2

3

4

AldricH MachinE WorkS

Greenwood, South Carolina

AUTOMATIC CLEANING where overhead track brings full air sweep of loom cleaner to every loom on the floor, without disrupting loom operation, keeping looms free of accumulated waste.

Keep Looms Continuously Clean . . . with No Downtime!

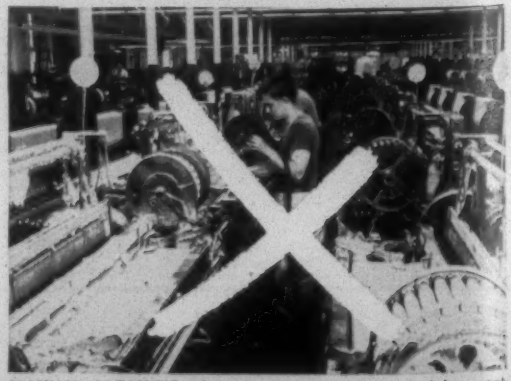
AMCO HELICLONE® LOOM CLEANER Pat. Pend.

In mills where Amco Heliclone Loom Cleaners have been installed, new high-quality production standards are being established.

The swiftly whirling outlet nozzles, driven by powerful air streams, direct high velocity jets of air in overlapping, circular paths resulting in a rapid series of sharp puffs over loom and warp surfaces. At the same time, supplementary air outlets clean overhead track and ceiling. Automatic cleaning with Heliclones largely eliminates end runs and floats, waste bunches, end breakage, overshots, broken picks, and oil spots caused by loose accumulated waste.

Amco Heliclone Loom Cleaners may be used for the automatic cleaning of practically *all* makes and types of looms. A unit similar to the Heliclone is also available for winder cleaning. Write for further facts.

- Keeps looms and ceiling free of accumulated waste
- Cuts loom cleaning and costly downtime
- Improves production and quality of fabric
- Reduces fire hazard
- Improves weave room appearance
- Can be used with beam handling equipment

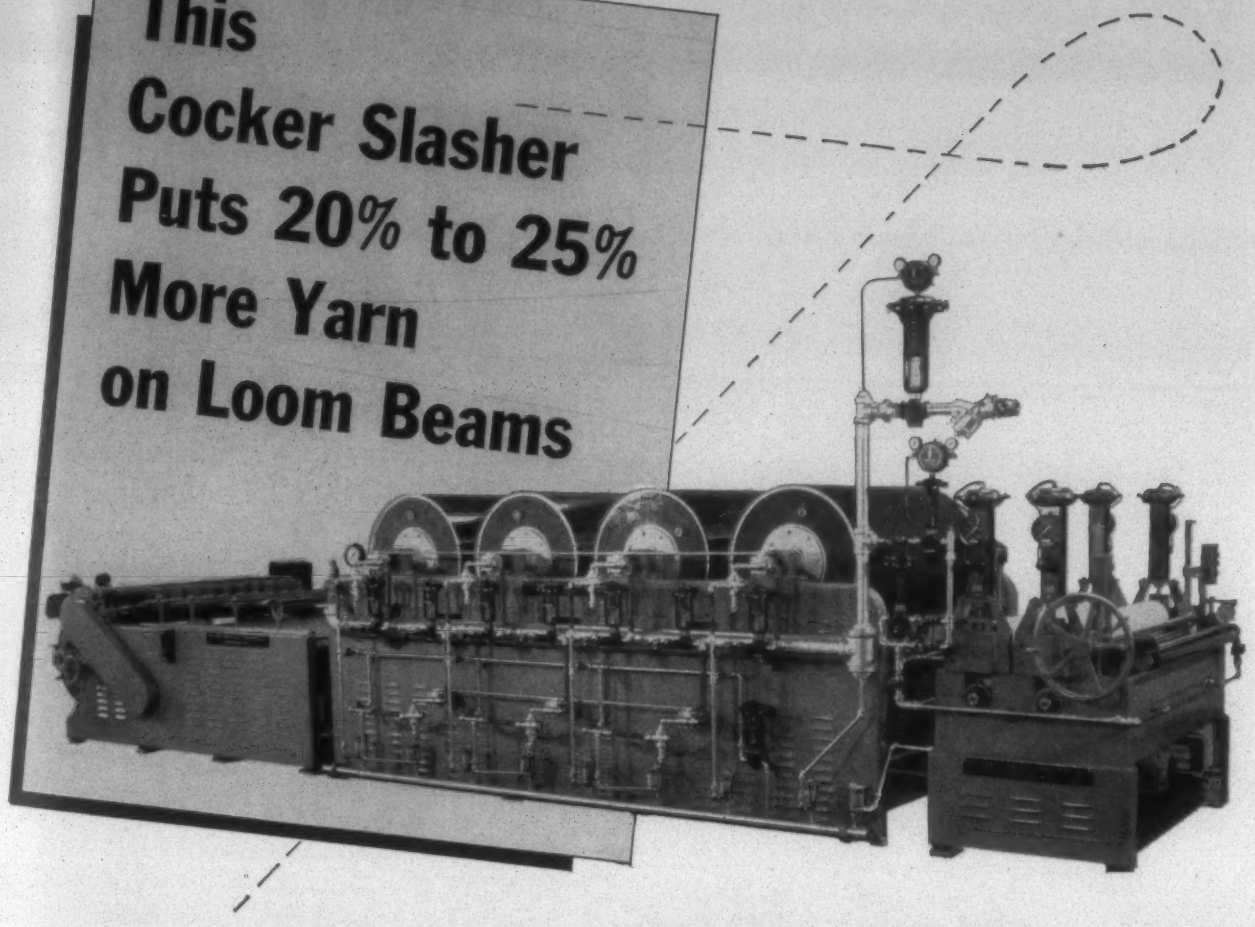


MANUAL CLEANING of waste accumulation, used by most mills, is very costly in terms of labor and downtime. It is a constant source of accidents and cloth imperfections.

AMCO

AMERICAN MOISTENING COMPANY
since 1888
Makers of Air Conditioning Systems and Textile Mill Equipment
Home Office and Plant: Cleveland, N.C. Branches in Atlanta, Providence, Toronto

This Cocker Slasher Puts 20% to 25% More Yarn on Loom Beams



. . . Available with the Cocker Compensating Beam Drive (2 motor or 4 motor) to produce hard, even beams with 20% to 25% more yarn per loom beam — at sustained speeds of 150 yards per minute at a production rate of over 1400 lbs. per hour. Air operated ironing compressor roll with finger tip pressure control, and variable D. C. Drive maintain even pressure and tension at all times.

All operations are under push button control at all times, with indicators to show how the work is running. Air operated carrier and delivery rolls and many other features make this the most efficient and convenient slasher you can buy.

Cocker slashers will handle all types of yarns. Built with 5 to 13 cylinders up to 144" in width. Call on Cocker for full information or engineering service.

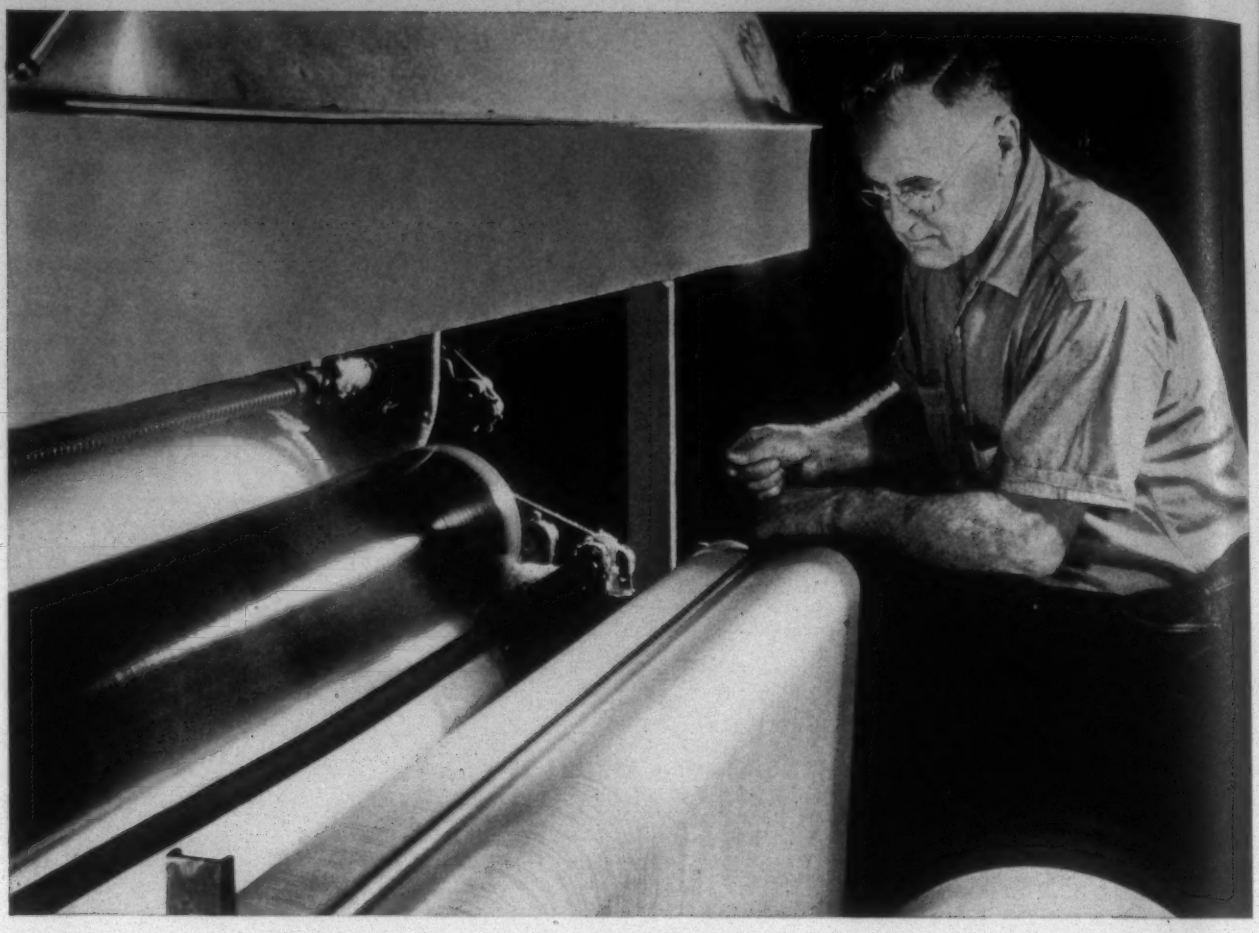
In Canada and New England:
Contact W. S. Clark
Montreal, Canada, MElrose 1-3751

THE LEADER COCKER AROUND THE WORLD

Plant and Offices at Ranlo, N. C. (Mailing address, Gastonia, N. C.)

Machine and Foundry Co., Gastonia, N. C.

WORLD'S LARGEST DESIGNERS AND BUILDERS OF COMPLETE WARP PREPARATORY EQUIPMENT



How Modern Mills Improve Slashing Operations

Time after time, mills around the country report greatly improved slashing operations with TEN-O-FILM starches. Compatible with most adjuncts and available in a wide range of fluidities, TEN-O-FILM users praise its many unique operating advantages.

TEN-O-FILM is ready to use after cooking thirty minutes. Many mills find need for less plasticizer than with conventional starches. The stability of TEN-O-FILM keeps size usable despite prolonged heating and cooling. Size made with TEN-O-FILM does not congeal or "skin over" at lower-than-normal temperatures . . . it can be held for reasonable shutdown period without gelation.

TEN-O-FILM offers several additional features including unequalled clarity of film, economy in desizing and dyeing.

Our technical service group has had wide experience and marked success in adapting this versatile starch to the varied needs of many textile applications. The production advantages and process improvements achieved by TEN-O-FILM can be fitted to your needs by consulting our textile technicians. Contact our nearest sales office or write direct.

TEN-O-FILM® starches

Other fine products for the Textile Industry: EAGLE® • FOXHEAD® CLARO® • GLOBE® starches • GLOBE® and EXCELLO® dextrines

CORN PRODUCTS SALES COMPANY · 17 Battery Place, New York 4, N. Y.

What more is there to say?

...the customer is all ways right!

GREEN RIVER MILLS, INC.
Fine Combed Yarns

TELEPHONE AND TELEGRAPH OFFICE
HENDERSONVILLE, N. C.

TUXEDO, NORTH CAROLINA

GEORGE W. BOYS, PRES & TREAS
ERNEST H. BOYS, VICE PRES & ASST TREAS
W. A. GUSTAFSON, SECRETARY

February 5, 1958

Mr. Robert McConnell, Vice President
Whitin Machine Works
Whitinsville, Massachusetts

Dear Bob

About a year ago we bought one of your AXI-FLO cleaners and wanted you to know how pleased we are with this unit.

It is the best cleaner we have ever seen for an opening line in all our experience.

We find this cleaner takes out from one to one and a half percent waste depending on the grade of cotton we are running and is equal in cleaning capacity to all our other opening and picking machines combined. Another factor we thought that might interest you is that after our stock was put through this cleaner our comber waste dropped one percent without any change in the settings.

This machine has improved the grade of our card strips and I would say that a Mill could use at least one grade lower cotton and still come up with the same quality in the finished yarn.

For the expense involved I do not know of any equipment that a Cotton Mill can install that will pay back as quickly as the AXI-FLO cleaner.

This cleaner is especially valuable because of the poor quality of the American crop and I don't know what we would do without it.

With best regards, I remain

Yours very truly,
GREEN RIVER MILLS, INC.
G. W. Boys.
George W. Boys
President

GWB/sc

WHITIN AXI-FLO® has received similar acceptance throughout the world. Mr. Boys' enthusiastic report echoes those from scores of other customers who have discovered that they, too, were *all ways* right when they installed these outstanding cleaning units.

Write today for folder giving complete details.

Whitin MACHINE WORKS
WHITINSVILLE, MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Facts about COTRON*

COTRON fabrics offer these important selling advantages:

- Richer Lustre • Improved Light Fastness • Better Drape
- Whiter Goods • Brighter Colors • More Luxurious Hand
- Better Definition of Print Pattern • More Even Appearance

These are some of the many important advantages consumers everywhere are learning about COTRON, the new cotton-rayon blend. The American Viscose Corporation has embarked on a thorough promotion program that's bringing honest-to-goodness results —big 4-color double-spread national magazine ads, trade ads, complete department and specialty store promotions, window and in-store displays, dealer mat ads, statement inserts—*the whole works!*

Yes, people everywhere are getting to know about COTRON—and already they're asking for goods tagged with the COTRON tag.

Get your share of the ever-increasing demand for COTRON—investigate COTRON now!

In wash and wear, resinated COTRON compared to resinated all-cotton fabrics shows

- Greater strength after repeated laundering
- Marked improvement in strength retention after repeated laundering with chlorine bleach

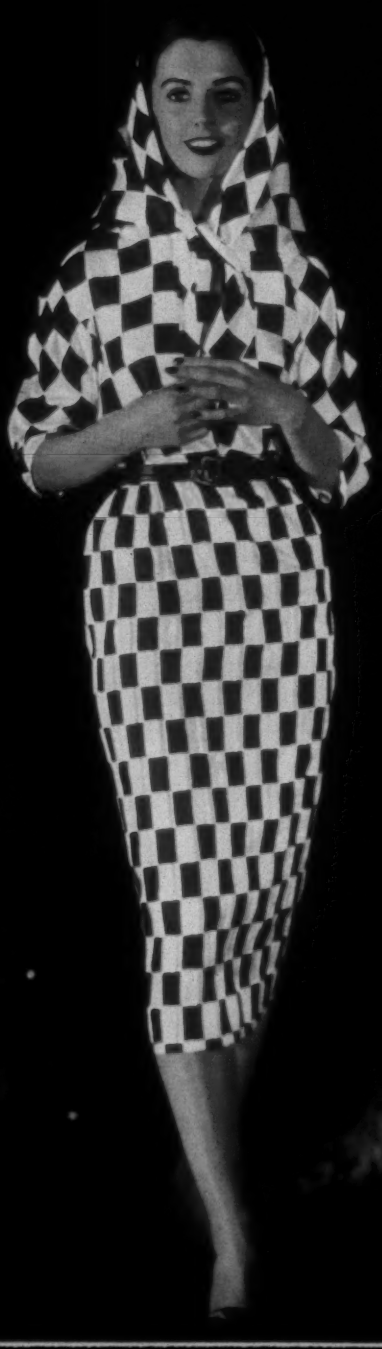
The Technical & Textile Service Department of the American Viscose Corporation is pleased to make available to finishers everywhere its vast store of information, experience and know-how regarding COTRON. A competent technical representative is at hand at all times to assist finishers with their COTRON applications.

* a fabric of cotton and AVISCO® rayon

AMERICAN VISCOSE CORPORATION
350 Fifth Avenue, New York 1, N. Y.

*Trademark of the American Viscose Corporation for fabrics made of cotton and Avisco® rayon

How much dye created all this color?



Just teaspoonfuls! But a trick of double exposure makes them appear as huge mounds.

It isn't always that simple, but National Aniline has been turning tricks with color for eighty years.

We continually develop new dyes and application techniques. Our Color Standardization Control Laboratory rigidly maintains high standards of quality and uniformity. And with our amply-staffed Application Service Laboratories coast-to-coast we render exceptional technical service.

No one is better equipped to serve you.

NATIONAL ANILINE DIVISION ALLIED CHEMICAL & DYE CORPORATION

40 Rector St., New York 6, N. Y. • Akron Atlanta Boston Charlotte Chattanooga Chicago Greensboro Los Angeles New Orleans Philadelphia Portland, Ore. Providence San Francisco Toronto

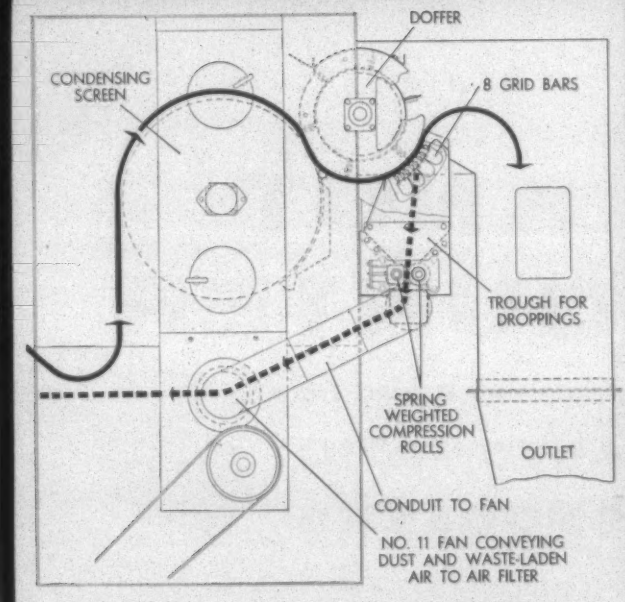
Allied Chemical

Poor cotton giving you trouble? Dust and fly a problem?

NEW SACO-LOWELL *Automatic* CLEANING UNIT

FOR ALL NO. 11 DUST & WASTE EXTRACTORS

- ★ Offers 30% (approx.) increase in cleaning efficiency of No. 11 Dust and Waste Extractors.
- ★ No extra beating of the stock — no increase in fibre breakage or neps



This view shows the passage of stock and droppings through the No. 11 Desk and Waste Extractor. All droppings are automatically carried away. Stock movement is indicated by solid lines; droppings by broken line.

Here is one of the low cost answers to help in proper cleaning of the poor 1957 cotton crop. This new Cleaning Unit is completely automatic, waste never has to be removed manually, does not require extra labor to operate. Mill tests show that the quantity of trash removed by this NEW CLEANING UNIT is equal approximately to 1/3rd of the amount of waste removed by any efficient unit in the opening line. Waste taken out includes motes, stem, leaf, boll and seed fragments. Is installed easily and inexpensively, assures cleaner stock that results in higher quality yarn.

Contact your nearest Saco-Lowell Sales Office for complete information.

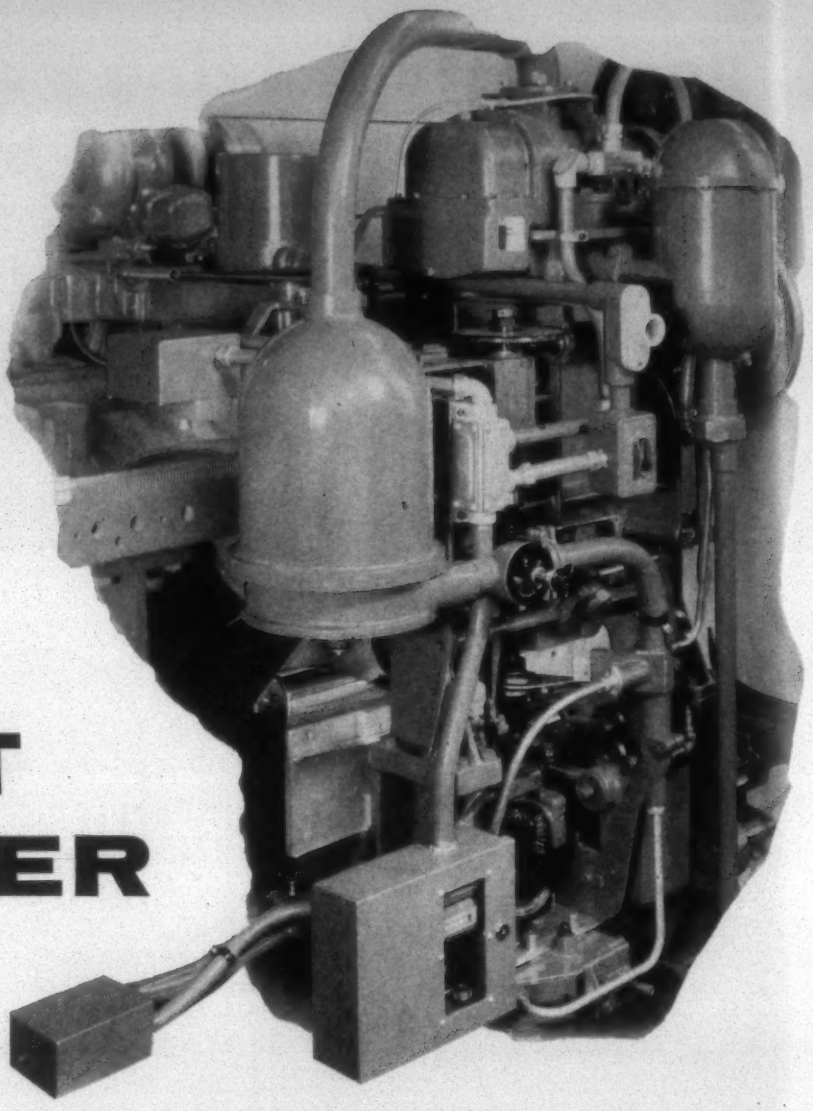
SACO-LOWELL SHOPS

60 BATTERYMARCH STREET, BOSTON 10, MASS.

Shops at BIDDEFORD & SACO, MAINE; SANFORD, N.C.; EASLEY, S.C. *Sales Offices:* CHARLOTTE · GREENSBORO · GREENVILLE · ATLANTA

TO PROVIDE A RELIABLE BOBBIN COUNT WHERE INCENTIVE PAY IS USED . . .

BARBER COLMAN



Automatic KNOT COUNTER

FOR TYPE C AND CC AUTOMATIC SPOOLERS

This new unit, which can be attached to any Barber-Colman Type C or CC Automatic Spooler, provides a reliable arrangement that will automatically count the number of bobbins put up by each operator in any selected period.

Accuracy is close to 100%. The sensing device is a star wheel, actuated by each pull rod when in its running position, which then closes a switch to operate the counter.

All efforts have been made through mechanical devices, electrical safeties, and cut-out cams to prevent registering of extra and unauthorized counts.

The Knot Counter is available for any number of operators and will give a separate count for each. If the number of operators is changed, the Counter can be changed to correspond. Also, if a change is desired in the number of units per operator, this can be accomplished by changing the cam position. Complete installation and operating instructions are furnished, including templates to aid installation by any competent mill mechanic. *For details, inquire of your Barber-Colman representative.*

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. — GREENVILLE, S. C., U.S.A. — MANCHESTER, ENGLAND — MUNICH, GERMANY

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Rayon sheds rain or shields against sun with equal ease. Its versatile utility-plus-economy has made rayon consumption greater than all other man-made fibres combined. And it's still growing!

To prepare for rayon's big future, we have just completed a multi-million-dollar expansion of our South Charleston, W. Va. caustic soda plant. Carbon bisulfide capacity is being doubled, too.

With this increased production we confidently expect to continue as a major supplier of basic chemicals for the rayon producers. We shall maintain the same high standards of efficient service that we have long rendered all of our customers throughout the textile industry.

Westvaco®

CAUSTIC SODA

CARBON BISULFIDE

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

Westvaco Chlor-Alkali Division

General Sales Offices:
161 E. 42nd STREET, NEW YORK 17

For The Textile Industry's Use

— NEW MACHINERY, EQUIPMENT AND SUPPLIES —

Softener And Lubricant

Yarns and fabrics get a quality boost with the use of Lauramine No. 20 in finishing operations, says Laurel Soap Mfg. Co. The company says that package-dyed cotton yarns are given improved winding properties, greater softness and better knitting qualities. Cotton fabrics are reported to gain superior hand and body, unusual softness and improved cutting and sewing properties.

Lauramine No. 20 is an anionic paste-type softener and lubricant of high activity. It is said to be non-yellowing and to not affect shades of dyed goods. It is said to form an emulsion of such fine particle size that uniform application and lubrication are assured. And knitting qualities of woolen, worsted and mixed yarns are said to be vastly improved because of the agent's variety of outstanding characteristics.

A free sample and mill-tested recommendations for its use are available.

(Request Item No. G-1)

Warp Tying-In Machines

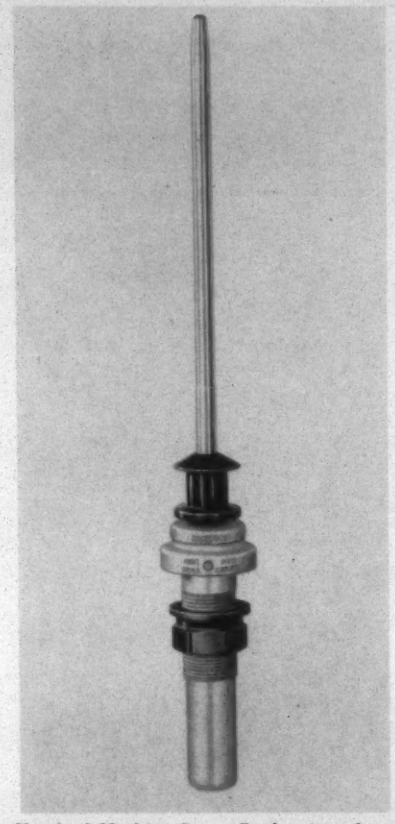
Edda International Corp. has announced the development of a new model, GK-6BX, of the Titan warp tying-in machines. The new model has been modified to enable the machine to handle heavier yarns than previously (carpets, papermaker felts, etc.). In addition to the new model, Models A, B and C are available. The first two of these are universal and/or equipped with automatic stop-motion and the last is for unleased warps only.

(Request Item No. G-2)

Filling Spindle

An improved, high-production spindle is being introduced by Hartford Machine Screw Co. This is a top-drive filling spindle with a smaller whorl of 25/32" diameter, whose improved drive ratio increases spindle speed. The company offers this spindle as one answer to the problem of producing greater poundage and yardage of yarn per spindle hour. Another refinement introduced by this Hartford filling spindle is the elimination of the acorn, which gives a lengthened cleaning cycle, lowering production costs.

The new spindle was engineered and produced in Hartford's manufacturing plant at Greenville, S. C., and was extensively tested in neighboring mills, the company reports. It is a refinement of the basic Hartford filling spindle, which features pre-greased ball bearings. According to the manufacturer, these service-free bearings do not need oiling for at least 5 years. At this time re-lubrication is rapid, because Hartford's patented split-base can be removed in a few seconds. Over and above curtailment of oiling maintenance, Hartford points out, the elimination of oil mist assures cleaner yarn of better quality because the spindle gives more uniform yarn tension with fewer ends down. (Request Item No. G-3)



Hartford Machine Screw Co. has introduced this improved top-drive filling spindle.

New Black Dye For Wool

Release of Naphthol Blue Black B Conc. Purified has been announced by Sandoz Inc. The new dye is said to provide an acetate reserve equal to that of premium priced blacks for wool, and to be equal in all other properties to Naphthol Blue Black B Conc. (Request Item No. G-4)

Spindle Cleaner

A new metal parts cleaner that is said to completely remove carbonized oils from spindles has been developed by Fine Organics Inc. Called Spindle-Klean, the new liquid cleaner is said to penetrate and clean interior surfaces completely and to "free" the components in "frozen" and seized assemblies. Previously unusable spindles can thus be salvaged and cleaned economically, the company reports.

The cleaner is described by the manufacturer as a solvent-based cold immersion type of cleaner—a balanced combination of organic solvents, surface-active agents, corrosion inhibitors and other compounds which remove grease, carbon deposits and many stains from spindles, knee-brakes and other metal parts of textile machinery. The dark-colored liquid contains a yellowish-brown upper layer comprising a floating water seal. The water seal reduces evaporation of the solvent and serves as a partial rinse when the cleaned parts are removed from the soak tank, the company reports.

(Request Item No. G-5)

Mothproofing

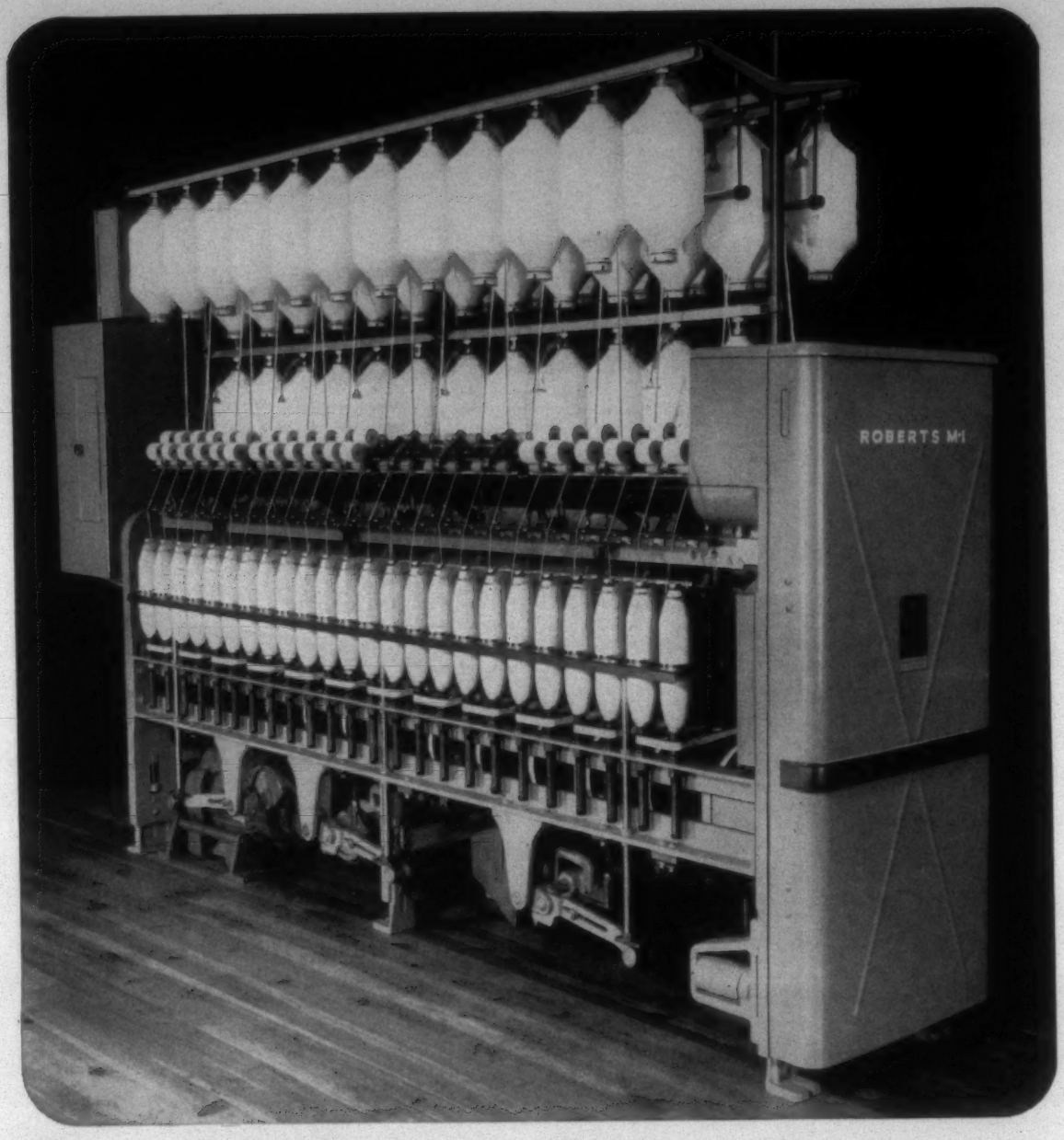
The Hart Products Corp. has announced the commercial availability of Larva-ex, an emulsifiable concentrate of Dieldrin, for permanent mothproofing of wool when applied in the dyebath to wools, worsteds and hair fibers. It is said to give permanent mothproofing protection which is durable to repeated laundering and dry cleaning and which meets the requirements of the A.S.T.M. permanent mothproofing standards and the standards of the U. S. Department of Agriculture. Larvatex is claimed to offer permanent mothproofing protection at very low cost and to feature ease of application. Full technical assistance on the application of Larvatex and the testing of treated goods for mothproofing efficiency are offered by Hart Products.

(Request Item No. G-6)

Etherized Starch-Resin Finish

An etherized starch-resin finish for cotton and synthetic fabrics provides maximum durability of fabric hand through repeated launderings, even in solutions containing today's powdered bleaches, according to Morningstar-Paisley Inc. With increasing popularity of dry bleaches, which tend to pull the body out of fabrics even more than the older liquid chlorine-type bleaches, there is a growing need for finishes with high resistance to repeated launderings, Morningstar points out. In recent comparative tests conducted by Morningstar, the etherized starch finish suffered only an 8% loss after three washings in a solution containing dry bleach; a number of finishes incorporating ordinary starches and starch derivatives had a loss of at least 30% in the same number of washings, the company reports.

Cold-water soluble, the starch ether is said to cut time and costs in the preparation of the finishing solution. The bath requires no cooking and subsequent cooling; only agitation is needed as the starch ether, called Solvitose HDF, is added. Softener is then added, if required. Although softener will decrease some of the stiffness, it serves to improve the fullness



ROBERTS SPINNING

ALL NEW—ALL BALL BEARING ROBERTS M-1 SPINNING FRAME

330 Roberts 25-inch Frames, with over 105,000 spindles, have been installed in American mills in the past two years. These Roberts Frames are very ruggedly built and exceptionally simple in design. Only tried and proven principles are used, which insure consistent high quality results.

Roberts M-1 Frames produce better yarns at higher front roll speeds and put more ounces of yarn on the bobbin. The ball bearing construction provides smoother operation plus reduced power use. Changes in draft, twist, lay, or speed are made very simply. Roberts M-1 Frames are available in 25-, 36- and 39-inch widths, for cotton, synthetics, worsted or blends, in short or long fiber lengths.

The benefits of big package spinning are available at

$32 to $40 per spindle

including freight and installation

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

FOR THE TEXTILE INDUSTRY'S USE—

of hand and tear strength. The resin is then added with thorough mixing, followed by the addition of catalyst. The solution is then ready for application on a standard finishing pad. The cloth is then dried, cured and afterwashed according to standard plant procedure. Curing temperatures are not affected by the starch ether. A typical solution for stiffening cotton and rayon fabrics is as follows:

1 to 6% Solvitose HDF,
0.5% anionic softener or
0.25 to 0.5 cationic softener,
15% thermosetting resin (based on weight of Solvitose),
catalyst according to recommendations of resin manufacturer

The amount of Solvitose HDF used depends on stiffness properties desired. The more starch ether used, the greater the stiffness. The incorporation of more thermosetting resin will increase crease-resistance and shrinkage control.

According to Morningstar, Solvitose HDF can also be successfully used with glyoxal, formaldehyde, urea formaldehyde, melamine formaldehyde and epoxy resins. Both embossed and friction calendered finishes are improved by its incorporation in the formula. It is also recommended as a hand builder in crease-resistant finishes.

(Request Item No. G-7)

Navy Blue Dystuff

A new economical dyestuff for cotton and viscose rayon, called Diphenyl Fast Navy Blue ARL has been brought out by Geigy Dyestuffs Division, Geigy Chemical Corp. According to Geigy, the new coloring material is superior in light and washing fastness to the generally employed low-cost navies for these fibers. Also, the company says, the light fastness on spun rayon is actually improved by crease-proof finishing.

Bulletin 79-G, which describes the properties of the new dyestuff, is available on request. Among other pertinent details, the bulletin indicates that rich, bloomy shades of navy can be secured with 3% on cotton, viscose and spun rayon. In addition, the dyestuff has excellent dischargeability, good acetate reserve and is level dyeing, according to the bulletin.

(Request Item No. G-8)

Attachment For Ribbon Looms

The Fletcher Works is now manufacturing a new patented ribbon roll-up attachment for ribbon looms. Fletcher reports the attachment will not only effect large savings but will produce a finer quality ribbon. It operates by laying woven ribbon side by side on a beam take-up. The beam of parallel ribbon then goes from the loom to the continuous dyeing machine, through the machine, and again onto another beam where the ribbon is laid side by side after dyeing and finishing.

The use of the attachment is designed to eliminate such steps as hanking, roll-up extracting, drying, shake-out and set-up for dyeing machines and to do away with the use of the ribbon boxes. At the same time it keeps ribbon from becoming tangled, prevents damaged ribbon and protects ribbons from grease and soiling.

According to Fletcher, the new attachment increases ribbon weaving efficiency up to 10% and increases loom load by 25%. Ribbon is cut off at 2,000-yard lengths. Inspection of goods on looms is said to be easier. Bulky ribbon and tape boxes are eliminated. Additional savings in the put-up department are made possible through multiple blocking.

Fletcher, through an arrangement with Narrow Fabric Engineering Co., patent holders, will make and sell the new attachment exclusively, and is demonstrating the weaving application of the method in the Fletcher weaving laboratory in Philadelphia, Pa. (Request Item No. G-9)

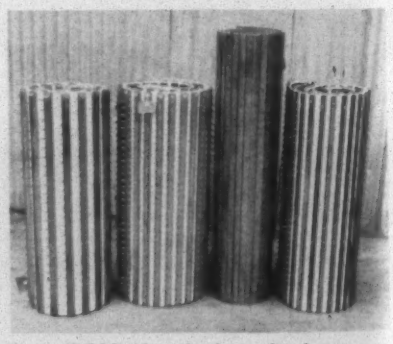
Cotton Boom Attachment

A new cotton boom attachment has been made available for Clarklift fork trucks manufactured by Clark Equipment Co.'s industrial truck division. Designed for fast, economical handling of cotton bales, it is also suitable for other bulky items and is interchangeable with other attachments fitting Clarklift trucks with 3,000 to 5,000 lbs. capacity.

Length of the attachment is 5' and capacity is 700 lbs. Maximum lift height is more than 15'. The boom is constructed of seamless steel tubing for high strength and low weight. An important design feature is a pulley and cable arrangement that permits raising the load 2 times the rate of upright travel, speeding warehouse and shipping operations. Precise spotting of loads is said to be facilitated by swivel design of the boom assembly, enabling the load to be rotated through 270° manually with little effort.

(Request Item No. G-10)

Slat And Spiked Aprons



Type R-128 chain-back, spike-slat aprons with hard maple slats mounted on forged steel chain are shown here rolled for shipping. Also shown *(second from right)* is a Type R-143 hardwood plain slat apron made on forged steel chain.

Sims Metal Works has announced that it is now manufacturing slat and spike aprons for materials handling. The new Sims line of aprons were formerly produced by Valley Wood Products. A variety of aprons will be available, with emphasis on the Model A-14 uphill spike type and the

"... that reminds me—I wanted to fix those squeeze rolls. . ."

Reminders are great gadgets. And since we haven't reminded you often (at least not more than three times a month), may we remind you that:

For 54 years we've specialized in manufacturing textile auxiliaries and warp size—and that

Seyco products and Seyco service go hand in hand.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Seyco Warp Lubricator.

Headquarters for textile chemicals

SEYDEL-WOOLLEY & CO.

748 RICE STREET, ATLANTA, GEORGIA

SEYCO

FOR THE TEXTILE INDUSTRY'S USE—

Model R-143 hardwood plain slat type. Sims says that it can furnish complete units or shafting, pulleys, sprockets, chain and belting for local installation by mill personnel. All items in the group of aprons have been tested for durability and strength to carry heavy loads, it is reported. The company's engineering staff is also available for consulting on special apron needs.

(Request Item No. G-11)

Plastic Tanks

Jones & Hunt Inc., has developed a new fiberglass plastic tank said to have strength-to-weight ratio in compression and tension greater than steel. The tanks are said to possess outstanding impact resistance, durability and corrosion resistance.

Cost is said to be low since they are produced in quantity from standard molds. Sizes range from 110 gals. to 4,000 gals. For their construction, the most chemically inert polyester resins are used and reinforced with about 40% woven glass roving and mat, the company reports.

Jones & Hunt tanks are now in used in many industries. They are available in either horizontal or vertical, open or closed. Fittings are of the same material and can be installed to the users' specifications. When necessary, the tanks may be taken into a plant in sections and assembled in place. The tanks are said to be inert to most chemicals, including acids, formaldehyde, alum, bleaches, saline solutions and solvents. A brochure giving full information, including prices and chemical resistance tables, is available.

(Request Item No. G-12)

Radiant Burners

Economies in drying and processing are achieved by the use of radiant, or infrared, gas burners, according to the Process Heating Co. It is generally recognized that drying and heat processing can be efficiently accomplished only after the material has been heated to a suitable temperature. Heat-up time can be costly in equipment and space, Process reports, therefore, the ability of radiant burners to transfer a vast amount of heat to the material or parts being processed, in a short time and space, makes it possible to obtain increased production with less costly equipment.

The new burners can be installed ahead of ovens and cylinder type dryers to set various finishes before the surface of the material makes contact with dryers or carrying rolls. The burners can be operated in any position making it possible to install them above and below material handled in continuous form or conveyors carrying pieces being processed. Textile applications include tenter frames, drying cans, slashers, singeing machines and ovens.

(Request Item No. G-13)

Yarn Softener And Detergent

Proctor Chemical Co. has announced the addition of a combination anionic softener and detergent to its selling range. The new product, Melotone O, is said to have excellent resistance to yellowing and does not affect the shade, light or wash fastness of dyed yarn. It is claimed that the combination of softness and detergency enables the dyer to finish package dyed and bleached yarn in one operation rather than the two operations generally required for soaping off and softening.

(Request Item No. G-14)

New Metallic Yarn

Metlon Corp. has announced a newly improved, premium quality metallic yarn which the company has called Ultra-Vat. This Mylar-based yarn is said to have all the outstanding properties of Metlon-with-Mylar, plus sharply increased resistance to Fadeometer and sunlight testing. In the standard Fadeometer, exposures of more than 300 hours have shown no appreciable change, making this quality of special interest to automotive and outdoor furniture uses, where sun and weather resistance are of primary importance.

In addition to these new properties, Ultra-Vat is said to be more than usually resistant to bleaching, mercerizing and vat dyeing as well as Sanforizing. Where necessary, Metlon reports, it will also resist vulcanizing and carbonizing temperatures

and processes. Like Metlon-with-Mylar, it carries the Certified Washable Seal of the American Institute of Laundering.

The yarn is reported to have already found excellent acceptance in automotive upholstery fabrics, plastic fabrics for outdoor furniture, awnings and beach and garden umbrellas.

(Request Item No. G-15)

Vat Green

An exclusive Ciba specialty, Cibanone Green 6G Paste, introduces a full yellowish-green shade. Recommended for shirtings, raincoat material and colored woven goods, it is reported to have excellent light and all-round fastness properties. Stable to chlorine and suitable for vulcanization, it can be applied as a pigment and in continuous dyeing operations.

(Request Item No. G-16)

Clamp For Fork Lift Trucks

Both palletized and non-palletized loads, as well as those on skids and in bins, are said to be handled easily and efficiently by a clamping attachment introduced by Lewis-Shepard Products Inc., producer of electric fork lift trucks and related materials handling equipment.

Called the Lewis-Shepard Master Universal Clamp, this multi-purpose attachment is available on all Lewis-Shepard electric fork lift trucks. Because the attachment actually clamps the sides of non-palletized objects hydraulically, it is especially effective in handling such items as bales or cases.

To pick up such a non-palletized load from the floor, the operator hydraulically opens the clamp, runs the truck up to the load so that the clamping arms straddle the load, and then clamps the load between the arms. Next, he lifts the load off the floor and drives to his destination. When using the clamp to handle pallets or skid platforms, the operator simply leaves his clamp in the "closed" position and inserts the clamping arms into the pallet or skid.

The device has a clamping range from 18 to 46" or 23 to 60", depending on the materials being handled. All controls for operating the clamping arms, which can be firmly held in any position of closure, are conveniently located at the driving position.

(Request Item No. G-17)

Silicone Softener

A new silicone emulsion designed specifically for softening thermosetting textile finishes is now available from the silicones division of Union Carbide Corp. Designated Union Carbide XLE-48 silicone textile softener, it is said to offer the advantages of durable softeners (such as high tear strength, abrasion resistance and enhancement of sewing properties) as well as increased durability toward repeated dry cleaning and washing, outstanding resistance to scorching, yellowing and water spotting, and complete resistance to chlorine damage.

The substance is said to have outstanding product and bath stability. It is non-gassing and is compatible with other finishing materials. When used either alone or with other hand modifiers it makes available a full range of hand variations.

In addition, Union Carbide claims that the silicone possesses two important features not available in other durable softeners—outstanding resistance to wet soiling (redeposition of soil) and improved release of soil during laundering. Uses where the manufacturer says the outstanding properties of XLE-48 are of importance are: yarn lubrication, nonwoven fabric softening, latex release and warp sizing. A 4-page data sheet which describes the properties, uses and availability of Union Carbide XLE-48 silicone textile softener can be obtained by using one of this journal's postage-free reader service request cards.

(Request Item No. G-18)

Heating Unit Control

A new low cost, off-hour control of motor driven fan heating units has been introduced by Illinois Engineering Co. The Illinois Night Control is a compact prewired package that eliminates on-the-job wiring. Included in the unit's cabinet is an automatic time clock, a low-limit thermostat, a magnetic contactor and a manual selector switch. The control can shut off the fan motors either singly or in groups,

then permit the heating unit to continue to provide tempering effect in the controlled area by convection. When the space temperature drops below the desired level the control again starts the fan which operates until the proper temperature is reached. The unit does not interfere with normal temperature regulation nor duplicate the function of other devices or equipment.

Its automatic time clock can be dialed to a 1 or 7-day program and may be set to control the fan motors by means of the magnetic contactor, which is available in three sizes with a maximum amp. rating between 9 and 22. The manual selection switch can be positioned for normal and off positions, for time clock operation and for ventilation only-continuous operations. The low-limit thermostat normally is mounted on the cover of the cabinet but may be installed at a remote point if preferred.

(Request Item No. G-19)

Vacuum Card Stripper

A vacuum card stripping device that is said to have no moving parts on the card, no traversing carriage to become clogged, no nozzles to damage card clothing and no obstruction to grinding or brush stripping has been announced by Wright Hargreaves Engineering Co., England. Called the Stripomatic, the new system has one fixed tube to the doffer and one for the cylinder. The Stripomatic tubes are located behind the name plate on the doffer top and below the lickerin underneath the cylinder. These are connected, through a special device attached outside the card frame but within the over-all space taken up by the card, to the vacuum piping either laid in the floor or placed overhead. After the unit is set in motion with a push-button, the stripping of the cylinder and doffer takes place automatically, the company reports, and the operator is free to attend to other cards since the unit stops itself on completion of the stripping operation.

Because stripping takes place above the comb on the doffer and underneath the cylinder on the bare sections of the card, it is not necessary to cut out the feed of cotton as with most systems, the company says. It is possible to avoid piecing up, the manufacturer says, since the cotton web does not completely break down with the Stripomatic stripping. The company recommends, however, that the sliver be broken off at the calender roll during operation (45 seconds only) to avoid the variation in weight inevitable during stripping.

Because of the automatic nature of the unit, the company reports that unskilled labor can be employed for the stripping. Another advantage cited for the unit is that short fibers and waste are not brought up into the web to form neps but are completely removed by vacuum without escape of dust, at long or short intervals as desired.

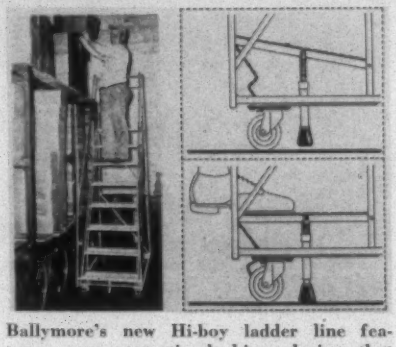
All strippings are pneumatically conveyed through the piping system to a central waste reception where the self bagging waste receivers and turbine exhausters are located. Card underfly, flat strips, draw frame, speed frame, ring frame waste and blow room droppings may all be vacuum cleaned and removed to the same waste center, being kept separate and delivered from the receiver already bagged if desired.

The Autobag waste receiver is another new piece of equipment which enables all types of cotton waste to be pneumatically filled into a bag of special size inserted into the waste receiver. This is said to be especially useful to organizations using their own waste as it is bagged in separate qualities uncompressed. In addition the dust hazard is said to be greatly reduced.

The machine will be on display at the International Textile Machinery Exhibition in Manchester, England, October 15-25.

(Request Item No. G-20)

Pyramid Ladders



Ballymore's new Hi-boy ladder line features an automatic locking device that snaps into place when the user takes the first step on the ladder.

An automatic locking device which adds to the efficiency of the pyramid design Hi-boy ladder line has been announced by the Ballymore Co. This new Ballylock is said to increase the safety factor of the ladders, to cut the time needed to anchor them securely to the floor, and to make locking easier and more convenient.

The first step of the ladder automatically actuates the Ballylock, fixing the ladder to the floor so that it cannot roll. There is nothing to remember, nothing extra to do, the company reports. The Ballylock is applied without effort, without thinking. It releases at the touch of the foot when the ladder is to be moved. There's no stooping or fumbling with troublesome catches. There's no wobble, roll, or kick-out. The protected, under-the-step location of the Ballylock prevents its accidental release.

Ballymore Hi-boy Safety-Step ladders are all-steel, all-welded construction and roll easily on heavy duty, ball-bearing casters. Five models, from 8 to 12 steps, are available for average working levels up to 15'. All models are equipped with sturdy guard rails for extra protection. Three types of safety treads are available. Special rust-resisting coating produces attractive, hard-wearing aluminum finish.

(Request Item No. G-21)

Printing Assistant

What is said to be a highly efficient discharge printing assistant has been developed by the laboratories of the Arkansas Co. This product, Algepon PD, is reported to be unique in that it is effective on practically all pigments including those of the difficultly dischargeable phthalocyanine type. On several of the latter type of pigments, the company claims, it is the only assistant which works effectively, under practical conditions.

It is used in conventional printing pastes and is usually compatible with the ingredients ordinarily used in such pastes. Such ingredients include gums, sodium-formaldehyde sulfoxalate, alkalis such as potassium carbonate, nonionic wetting agents and assistants such as glycerine, glycol, etc. By means of Algepon PD, the company reports, phthalocyanine pigments can be reduced to a clear white sharp pattern within a period of 5 to 10 minutes in the steam ager. For phthalocyanine pigments which are difficult to discharge, it is recommended that a minimum of 10% Algepon PD be incorporated in the printing base. For pigments which are not difficult to discharge, considerably smaller amounts may be used successfully.

Algepon PD is also an excellent stripping assistant for pigment dyed goods. In this application, all types of pigments including those of the phthalocyanine type are readily removed, using 1% Algepon PD in the conventional hydrosulfite-caustic soda process. (Request Item No. G-22)

Dry Steam Cleaner

A new, portable, heavy duty Hot Shot steam cleaner which operates on electric power and carries its own water supply has been developed by Automatic Steam Products Corp. for use in textile mills. Designed specifically for the indoor cleaning of machinery, equipment, fabrics and work surfaces, it creates dry steam which minimizes water flooding.

Equipped with fittings made from nickel-bearing stainless steel by Sharon Steel Corp., the steam cleaner is designed for a corrosion-free long life. It differs from cleaners using hot water or wet steam and also has water reservoir, pump and motor contained in one package unit which can be moved by hand.

The new cleaner is made in three power sizes to meet varied textile mill needs. It contains basic elements which are said to have proven 5 million maintenance-free hours in earlier company models without failure or major part replacement.

(Request Item No. G-23)

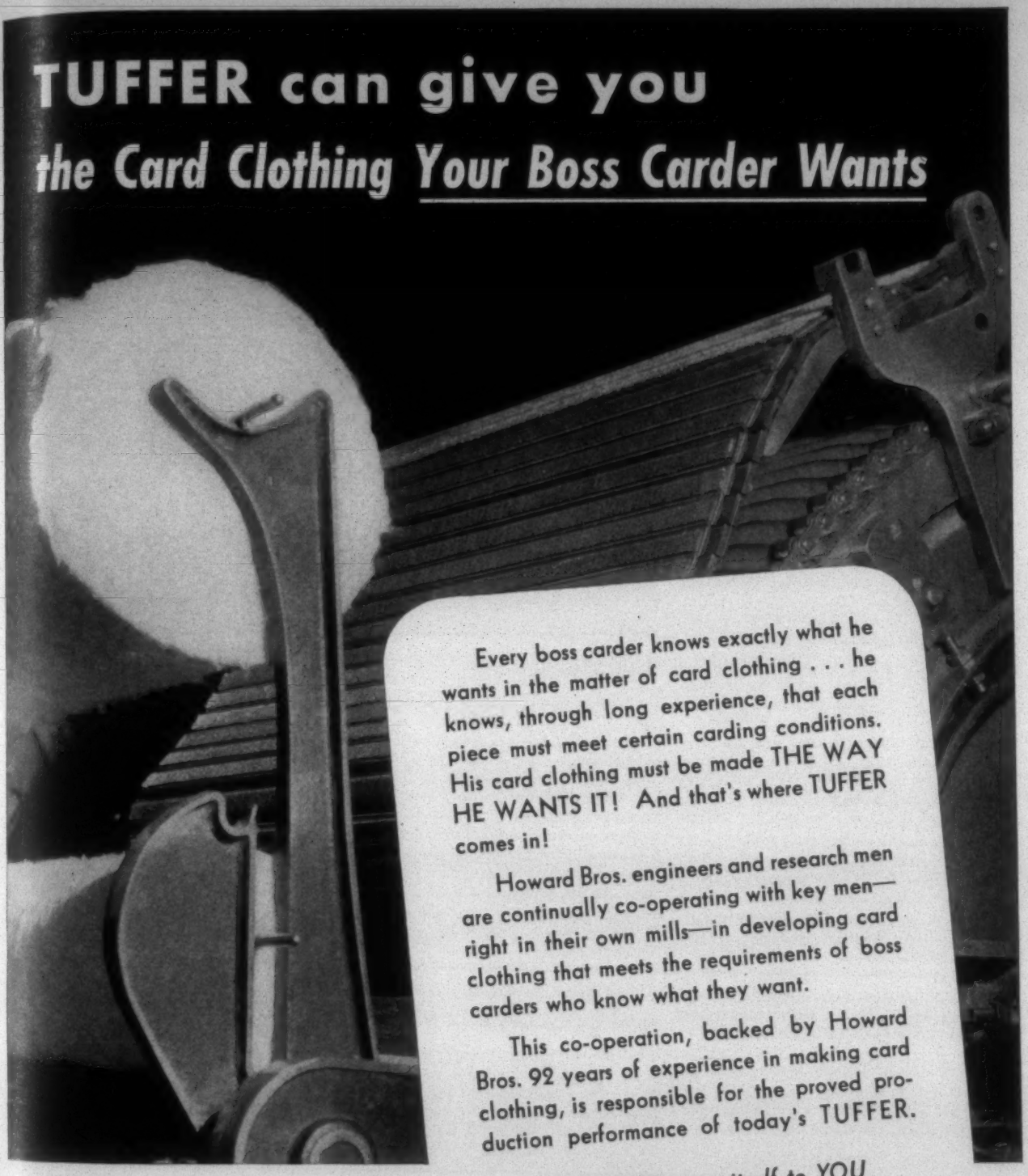
Surfacing Material

A new structural surfacing material, Permatop, which is said to be harder than concrete, to resist industrial corrosion, and to literally weld to new or old masonry, has been put on the market by Permagile Corp. of America.

Said to be the first surfacer to provide mineral aggregate and plastic binder in a single package, it can be used to rebuild masonry floors wherever desired.

Permatop consists of a resin base, liquid reactor and chemically treated aggregate, all in a single package. The pre-measured materials, mixed at the site, are ready for

TUFFER can give you
the Card Clothing Your Boss Carder Wants



Every boss carder knows exactly what he wants in the matter of card clothing . . . he knows, through long experience, that each piece must meet certain carding conditions. His card clothing must be made THE WAY HE WANTS IT! And that's where TUFFER comes in!

Howard Bros. engineers and research men are continually co-operating with key men—right in their own mills—in developing card clothing that meets the requirements of boss carders who know what they want.

This co-operation, backed by Howard Bros. 92 years of experience in making card clothing, is responsible for the proved production performance of today's TUFFER.

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B-1

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TUFFER PRODUCTS Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Re-covered and extra sets loaned at all plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plants • Midgley Patented, and Howard's Special Hand Stripping Cards • Top Flat Chains

immedate use. Applied very much like concrete, the mixture can be trowled to a smooth skidproof surface. Unlike concrete, he company reports, it can be feather-edged.

The product's main advantage, according to Permagile Corp., is the fact that it adheres to any clean, cured masonry surface, old or new. The chipping usually required in masonry floor repair is eliminated, since no mechanical interlock is required. It may be applied in thicknesses of $\frac{1}{16}$" or more. Treated areas can be exposed to use in a few hours. (Request Item No. G-24)

Polypropylene Yarn

Reeves Brothers Inc. is now producing commercially a Polypropylene yarn. The new yarn represents a completely new development in extruded plastics in the U. S., the company reports. The yarn is said to have many industrial uses including rope and in many fabrics for which nylon, saran and polyethylene are presently used.

Polypropylene is said to have particularly good elongation properties which reduce creep under constant load. It is exceptionally light (specific gravity 0.90), and like polyethylene, it does not lose strength when wet.

Reeves Series 800 Polypropylene filaments are available in single strand sizes ranging from 0.004 to 0.020 millimeter diameters. Multifilaments are also available ranging from 0.003 to 0.008 millimeters in diameter for each filament. Cross section of an individual strand can be round, elliptical or flat, the company reports.

The company reports that the yarn can be supplied in its natural clear color or it can be pigmented to a wide range of colors, stabilized against ultraviolet degradation.

The manufacturer has tentatively announced the following properties of the yarn: specific gravity 0.90, melting range, 325 to 335° F.; softening point (without load), 280 to 300°.; decomposition, above 550° F.; tenacity, 5 to 7 grams per denier; ultimate elongation (adjustable on request), 15 to 25%; strength at rupture, 70,000 to 90,000 p.s.i.; strength as is, 60,000 to 85,000 p.s.i.; shrinkage (adjustable) at 165° F., 4 to 8%; shrinkage at 212° F., 10 to 15%. (Request Item No. G-25)

Binder For Nonwovens

A new low-melting thermoplastic binder for nonwoven fabrics has been announced by the textile fibers department of the Du Pont Co. Known as Dacron polyester fiber-binder, the new product will be manufactured as an undrawn, uncrimped Dacron staple with an average denier per filament of about 8 to 10. It will be available in a cut length of $1\frac{1}{2}$".

The fiber-binder presents the opportunity to make nonwoven fabrics of 100% Dacron, offering the advantages of the fiber's dimensional stability, heat resistance and good electrical properties.

The fiber-binder may be blended with conventional Dacron staple and may be processed on such conventional web-forming equipment as a carding machine, garnett card or air deposition unit. Bonding of the web may be achieved through calendering with heated calender rolls or by hot pressing. When the fiber binder is calendered or hot pressed at 340 to 400° F., it adheres to the conventional Dacron staple to form a strongly bonded nonwoven fabric.

Du Pont reports that the properties of nonwoven fabrics of 100% Dacron polyester fiber, such as low moisture absorption and dimensional stability, may be utilized in such applications as inter-liners for suits and backing for coated fabrics.

(Request Item No. G-26)

Cationic Softener

A cationic softener developed by the Du Pont Co. is designed not only to add a soft, lubricated and pliable hand to cotton and synthetic fibers but also to prevent yellowing when exposed to atmospheric oxides of nitrogen.

Marketed as Avitex Q fabric softener, the compound is a soft, smooth white paste that disperses readily in water with agitation at temperatures of 140° F. or higher. It has a high substantivity for cotton, rayon, nylon and other synthetic fibers in a dilute bath application—90 to 100% degree of exhaustion is obtained readily, according to the company's dyes and chemicals division.

Said to be suitable for use as a self finish and in conjunction with starches and various resin finishes, the new softener can be applied either by padding or by exhaustion from a long bath. Used with thermoreactive or thermosetting resins like Du Pont Zeset fabric stabilizer, it provides fabric finishes with improved tear strength and sewability. The softener is said to act as an effective plasticizer for thermoplastic resins which are used to obtain finishes semi-durable to laundering.

(Request Item No. G-27)

For the Mill Bookshelf

Dutch Trade Letter

The Buhova Trade Letter for 1958, containing a large number of addresses of industrial and commercial firms in the Netherlands which are interested in trade relations with firms abroad has been issued by the Commercial Intelligence Office and is available on request to firms interested in business relations with Dutch firms. The Commercial Intelligence Office aims at promoting business relations with all countries and gives full information to firms all over the world, supplying them witth addresses of manufacturers, exporters, importers, wholesale dealers, agents, etc., in the Netherlands. (Request Item No. G-28)

Diversified Products Book

A new full-color, 24-page booklet describes diversified products of Fischer & Porter Co., manufacturer of flowmeters, process instrumentation, data reduction and automation equipment, chlorination equipment and glass products. The booklet outlines the growth of the 20-year-old company from 1937 to 1957.

(Request Item No. G-29)

Lindly Technical Bulletins

The start of a regular series of technical bulletins to be sent to those interested in Lindly electronic inspection and control equipment for the textile industry has been announced by Lindly & Co. Inc.

The bulletins will cover the technical aspects of the use, installation and maintenance of Lindly equipment. While the bulletins will be of primary interest to engineering, production and quality control men, the company says that others in purchasing and administrative positions will find the Lindly technical bulletins of interest and value. The first bulletin is entitled "The Theory of Operation of the Lindly Electrotense," and has already been released.

(Request Item No. G-30)

Variable Speed Ring Spinning

The "Davis & Furber News" describing the advantages of variable speed ring spinning available on the latest Davis & Furber spinning frame has been published by the company. The publication describes the variable speed motor drive with electronic controls and its benefit in controlling yarn tension. The control of yarn tension by the frame enables it to show an increase in the yards delivered, according to the company. The 6-page, 2-color bulletin describing the spinning frame is illustrated with photographs and a diagram.

(Request Item No. G-31)

Boiler Water Gages & Valves

A condensed 2-page Data Unit 329 covers in detail the Jerguson Gage & Valve Co.'s line of high pressure boiler water gages, including gages with offset single piece gage chamber design that eliminate blind spots to give more inches of visibility. These gages also have a horizontal loop which keeps the strain off the gage assembly and takes care of expansion and contraction. A full description, including illustrations of the various assemblies, appears on the front page, while a detailed table of specifications appears on the back page. Data is also included on Jerguson inclined gages (and the method of figuring the correct inclined gage centers), and on the Series 20 gages for lower pressures, together

with methods of replacing tubular glass gages with flat glass gages, and installations that eliminate end stems and stuffing boxes.

(Request Item No. G-32)

Materials Handling Catalog

The Colson Corp., manufacturer of casters, floor trucks and materials handling equipment, announces the publication of its new compact product catalog. Described in this 24-page catalog are variations of some 12,000 casters; special use dollies; platform trucks; light, medium and heavy duty hand trucks; lift jack systems; Structo steel angles. Colson conveyor systems, hydraulic lift trucks, lift tables, platform lifts and special lifting and handling devices.

(Request Item No. G-33)

Adjustable Speed Drives

Cutler-Hammer Inc. announces the availability of two 12-page descriptive booklets covering its line of adjustable speed d.c. packaged drives.

The Ultraflex Packaged Drives, Cutler-Hammer's trade-name for the new devices, are designed to enable the great majority of industrial plants supplied with a.c. power only to take advantage of improved machine performance through the wider range of speeds and closer speed control possible with direct current motors. In Ultraflex drives, light and compact static power conversion units have replaced the conventional motor generator set to provide outstanding savings of up to 50% or more in valuable floor space and up to 75% in weight. Control for the new drives employs greatly simplified circuitry.

Publication EN-64 describes Ultraflex E, the adjustable speed drive in sizes from 1 to 40 h.p. which uses electronic tubes for power conversion. The Ultraflex M, adjustable speed drive in sizes from 1 to 200 h.p., utilizing magnetic amplifiers for power conversion, is described in publication EN-65. Both types are complete packaged drives and include control, operating station and industrial type d.c. motors.

(Request Item No. G-34)

Trico Catalog

Trico Fuse Mfg. Co. has announced the publication of an 8-page catalog (No. 58) which explains the usage of various types of Trico electrical and lubricating devices. The literature features recently developed new products to assist industry in cutting costs and increasing production. The catalog's 8½" x 11" size makes it convenient for filing and reference.

(Request Item No. G-35)

Roller Chain Drives

Production engineers and designers using or planning to use sprockets or roller chain drives will be interested in Maurey Mfg. Corp.'s new 8-page Catalog D-58. This compact, illustrated new catalog provides complete descriptive information, prices and tabular data pertinent to the new Maurey line of roller chain drives.

Featured items in the line include bushed type and plate sprockets, XBS interchangeable bushings, Ful-Grip Q-D bushings for larger sprockets, and single strand and double strand roller chains.

(Request Item No. G-36)

Flexible Couplings

Bulletin No. 10100A of T. B. Wood's Sons Co. has been revised to cover new additions to the line of Sure-Flex couplings, which now includes ten sizes. The additions are: No. 3 (⅜ to ¾" bore), No. 4 (½ to 1" bore), No. 11 (1⅞ to 2⅜" bore) and No. 12 (2⅜ to 2⅞" bore). Selection data and other engineering tables have been revised to include these large and small couplings. The revised tables also include newly-designed couplings with ductile-iron flanges and a special steel retaining ring and specially balanced couplings. Both new types are available in sizes from Nos. 5 through 12. The 8-page letterhead-size bulletin is printed in two colors.

(Request Item No. G-37)

G-E Textile Motors

Bulletin GEA-6795, which describes General Electric's new line of totally enclosed, fan-cooled textile motors from 7½ through 25 h.p. for spinning frames, roving frames, pickers, opening equipment and other textile mill applications, has been issued by the company. The bulletin illustrates exclusive new endshield design and includes data on available frame sizes and dimensions.

(Request Item No. G-38)

Textile Chemicals

A new 12-page booklet entitled, "Chemicals for the Textile Industry," has been issued by Nopco Chemical Co. Over 50 products are described and cross-indexed according to use. Included are: coning oils, detergents, dyeing assistants, fiber lubicants, finishing compounds, mineral oil emulsifiers, thickeners, warp sizes, water repellents and wetting agents.

(Request Item No. G-39)

Use Of Fluorochemicals In Treating Cottons

Additional data on the use of fluorochemicals to impart oil and water resistance to cotton textiles have been developed by scientists at the Southern Utilization Research & Development Division of the Agricultural Research Service, U. S. Department of Agriculture. Further treatments have also been developed, among them one which is stable through several launderings, and a combination treatment for white materials which does not discolor them.

Fabric structure had a marked influence on the effectiveness of each of the respective treatments. Sateen and whipcord required heavier applications to achieve oil repellency than did fabric of lighter construction. Most treatments retained their efficiency after exposure to hexane and to carbon tetrachloride, but oil repellency was completely destroyed by ordinary laundering procedures. Fabric treated with a fluoro rubber latex, however, proved resistant to laundering. Application of an acrylic latex to cotton fabric before treatment with perfluoro-octanoic acid chrome complex solutions markedly increased resistance to penetration by both mineral and vegetable oils. Samples were evaluated for tear and breaking strength, stiffness, water and rot resistance, and other properties.

Compounds used, and other conditions of the tests, as well as results, are reported in "Oil and Water Treatments for Cotton with Fluorochemicals," which appeared in a recent issue of *Textile Research Journal*. Single copies of reprints may be obtained without cost from the Southern Utilization Research and Development Division, P. O. Box 7307, New Orleans 19, La.

Cotton Counts Its Customers

A picture of cotton consumption trends in major end uses for a 10-year period is presented in "Cotton Counts Its Customers —Special Edition." This publication, which contains data on more than 400 apparel, household and industrial uses for cotton, was released this month by the National Cotton Council's market research section. The report covers the years 1947-1956. End use estimates for 1939 are included for comparison. Copies of the report can be obtained by writing the National Cotton Council, P. O. Box 9905, Memphis 12, Tenn.

Cotton Fiber Standards

Eight standards of the American Society for Testing Materials covering cotton fibers have been approved as American Standards by the American Standards Association:

The standards are: American Standard L14.92-1957, A.S.T.M. Designation D 1441-54, Standard Methods of Sampling Cotton Fibers for Testing; American Standard L14.95-1957, A.S.T.M. Designation D 1444-56, Standard Method of Test for Cross-Sectional Characteristics of Cotton Fibers; American Standard L14.96-1957; A.S.T.M. Designation D 1445-57, Standard Method of Test for Strength of Cotton Fibers (Flat Bundle Method); American Standard L14.97-1957, A.S.T.M. Designation D 1446-53T, Tentative Method of Test for Number of Neps in Cotton Fibers; American Standard L14.98-1957, A.S.T.M. Designation D 1447-54T, Tentative Method of Test for Length of Cotton Fibers by Fibrograph; American Standard L14.99-1957, A.S.T.M. Designation D 1448-56, Standard Method of Test for Fineness of Cotton Fibers by Micronaire; Ameican Standard L14.100-1957, A.S.T.M. Designation D 1449-55T, Tentative Method for Determining the Specific Area and Immaturity Ratio of Cotton Fibers (Arealometer Method); American Standard L14.101-1957, A.S.T.M. Designation D 1450-57, Standard Method of Test for Maturity of Cotton Fibers (Polarized-Light Method.)

Copies of the standards are available at 30 cents each from American Standards Association, 70 East 45th St., New York 17, N. Y.

Serving The Textile Industry

Saco-Lowell Subsidiary Being Consolidated

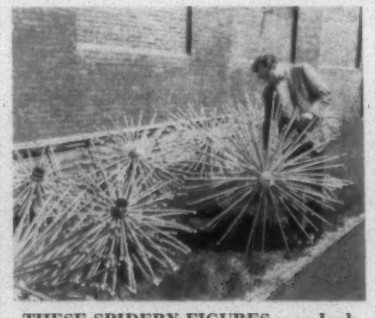
Saco-Lowell Shops has announced plans to consolidate operations of its subsidiary, Pawtucket Spinning Ring Co., in the Greenville, S. C., area with headquarters in the firm's new Easley plant. Pawtucket is made up of the Victor Ring Traveler Division, formerly Victor Ring Traveler Co., and the spinning ring division. The subsidiary has plants in Providence and Central Falls, R. I., and a branch warehouse in Gastonia, N. C. The consolidation is expected to affect between 115 and 120 persons at the two plants.

Steel Heddle Mfg. Co. Holds Exhibit And Forum

Steel Heddle Mfg. Co., Philadelphia, Pa., manufacturer of textile equipment, held a product exhibit and forum the week of June 9 in Providence, R. I., Portland, Me., and Andover, Mass. The full Steel Heddle line was displayed and there were demonstrations and discussions of the care and repair of reeds and shuttles conducted by Harry Raupp, superintendent of the reed division, and G. D. McGill, Southern product manager. The company reports that the exhibit was well received and that there have been requests to hold hold similar exhibits in other textile areas.

Seydel-Woolley & Co. To Build New Plant

Seydel-Woolley & Co., Atlanta, Ga., has awarded a contract for the construction of a new textile-finishing compound plant. The plant equipment will be versatile enough to manufacture a great number of other textile chemicals, the company reports. The manufacturing process will include a 1,500-gallon gas-fired, radiant-heated kettle as the reaction vessel. It will be equipped with completely automatic temperature control of the reaction cycle.



THESE SPIDERY FIGURES may look like rimless wagon wheels, but actually are spray assemblies used in new industrial air conditioning units made by Carrier Corp. Harry Barbrey, air conditioning engineer for Woodside Mills, Greenville, S. C., inspects them prior to installation. The sprays set up a small hurricane which cools and cleans the air removing lint and other airborne particles. The air is then delivered to the manufacturing areas.

Oliver D. Landis Inc. Moves Gastonia Shop And Offices

Oliver L. Landis Inc. has announced the relocation of its Gastonia, N. C., card flat clothing shop and sales offices from 621 E. Franklin Ave. to 1805 W. Franklin Ave. The new location is considerably larger. It allows for faster processing of flats and brings all of the company's storage facilities under one roof.

Trust Co. Of Georgia Proposes Stock Split

The board of directors of Trust Co. of Georgia has recommended to its stockholders that the capital stock of the bank be split on the basis of ten shares for every share held, and that the par value of the stock be reduced from $100 per share to $10 per share, and the number of shares increased from 40,900 to 409,000 shares.

The board indicated that, circumstances permitting, the quarterly dividend of the new shares would be 65 cents, or an annual rate of $2.60 per share on the new stock, which is equal to $26 per share on the present stock as compared to $22 per share now being paid on that stock.

The stock split is subject to the approval of the bank supervisory authorities and the stockholders of the Trust Co. If stockholders' approval is given to the plan, new stock certificates will be issued as of August 18.

Curtis & Marble Machine Co Buys Instrument Division

The purchase of the assets of the instrument division of the Barbour Stockwell Co. of Cambridge, Mass., has been announced by Walter E. Hildick, president of Curtis & Marble Machine Co., Worcester, Mass., manufacturer of textile machinery since 1831. The new operation will be designated as Barbour Stockwell Instruments. It will operate as a separate division of Curtis & Marble Machine Co.

Curtis & Marble stated it would immediately accelerate the new instruments division under an augmented management to increase sales and manufacturing of its present line, as well as establish new markets and areas of distribution.

General manager for Barbour Stockwell Instruments, manufacturer of tachometers, adapters, actuators, gear boxes, flexible shafts and hubodometers, is Miles Pendleton. Pendleton, who has just been retained by Curtis & Marble, has had a broad experience in the management and manufacturing fields. He was formerly associated with Peterson & Neville Inc. and Franklin Management Corp., both of Boston, and Kroy Inc. of Lowell, Mass. He is a graduate of Yale University and a member of Tau Beta Pi honorary engineering society. William A. Bowman will continue as production manager for the new division. Bowman was formerly with Electronics Corp. of America and R.C.A. For the present time, Barbour Stockwell Instruments will continue its operation in Cambridge, but it is expected all manufacturing and management will be moved to the Curtis & Marble building by late Fall of this year.

Warner & Swasey Co. To Close For Two Weeks

The Warner & Swasey Co. has announced that its manufacturing plants in Cleveland and New Philadelphia, Ohio, will be closed two weeks—from August 11 through August 22, inclusive—for employee vacations. As in past years during the employee-vacation period, no outgoing shipments of the firm's products will be made or delivery of incoming materials received at these plants, the company said.

Industrial Rayon Corp. Reports Loss In First Half

Industrial Rayon Corp. has reported a net loss of $1,092,316 for the first half of 1958, equal to 59 cents per share of common stock. This compares with net income of 76 cents per common share for the first half of 1957. Sales for the first half of 1958 amounted to $21,879,045, which compares with sales of $30,963,800 during the same period of 1957.

Second quarter 1958 loss amounted to 46 cents a share, as compared with earnings of 26 cents a share in the second quarter of last year.

Saco-Lowell Shows Loss For The First Quarter

A loss of $1,273,358 before income taxes for the 13 weeks ended June 1 was reported by Saco-Lowell Shops, Boston, Mass. Net loss was $523,358 following a tax carry-back credit of $750,000. This compares with a net profit of $16,462 for the same period last year. Included in the loss were non-recurring charges of $1,150,000 resulting largely from the recently announced accelerated program for moving additional textile operations to the South and the automotive division to the Edwards Plant in Saco, Me. The over-all relocation in the South is expected to be accomplished this year.

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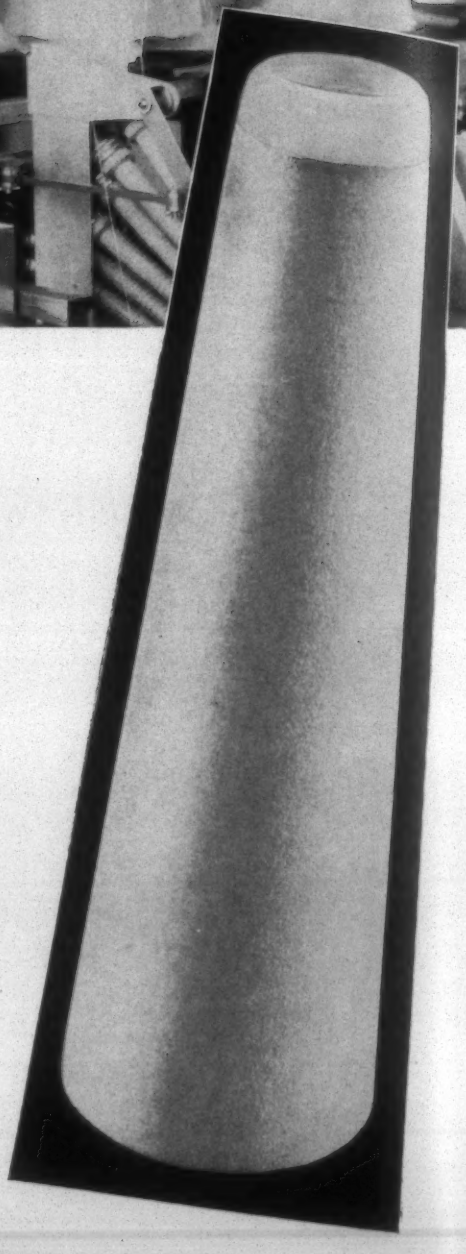

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textile bulletin

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JUNIUS M. SMITH . . . . . *President and General Manager*

F. R. CAREY . . . . . *Vice-President and Eastern Manager*
(P. O. Box 133, Providence, R. I.—Telephone TUrner 4-9624)

MARGARET L. ROBINSON . . . . . *Secretary-Treasurer*

JAMES T. MILLER JR. . . . . *Advertising Representative*
(P. O. Box 133, Providence, R. I.)

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Inquiry & Reader Service . . . . . FRANCES HAYWOOD

TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00; one year, Canada, $3.00; one year, other countries in Postal Union, $5.00; single copies, 25 cents. ¶ A companion monthly journal, THE KNITTER, is published by Clark Publishing Co. and devoted to the interests of the knitgoods manufacturing industry.

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The Pot And The Kettle

THE United Textile Workers of America (U.T.W.) took a poke last month at the Textile Workers Union of America (T.W.U.A.) for its failure to make any move toward a merger of the two suffering unions. The U.A.W., in the June issue of its official publication, *The Textile Challenger*, posed this question: "Do the officers of T.W.U.A. desire a merger of T.W.U.A. and the United Textile Workers?" (From this wording it would appear that rank-and-file T.W.U.A. members have no say-so in the matter.)

The editorial then proceeded to answer its own question with a: "We think not. We believe T.W.U.A. would like to gobble up the U.T.W. rather than negotiate an honorable merger." The article goes on to point out that the U.T.W.'s merger committee just hasn't been able to get a single concrete proposal out of the T.W.U.A.'s merger committee. That this lack of enthusiasm may stem from the recently publicized skeletons in U.T.W.'s closet is indicated in another statement in the article: "The United Textile Workers is not interested in reliving the past, let alone trying to use phony arguments to fix responsibility for who is right and who is wrong. This is a public matter and the textile workers are completely familiar with it."

The fact that the textile industry *is* familiar with the U.T.W.'s recent sordid mess is confirmed by figures also cited in the article—that membership of the T.W.U.A. has dropped from 423,000 in 1952 to an estimated 176,000 in 1958; and that membership in the U.T.W. stands at only 50,000.

"It may be a source of gratification," the editorial notes, "for the T.W.U.A. to report at its recent convention in Miami that the union has been constantly going downhill since 1952 but that in spite of this adversity they were able to lay aside as assets in the neighborhood of $800,000. But insofar as this being of any benefit to the members of the textile union, or holding out any hope for their general advancement, it would have been far better to have been able to report an increase in membership rather than in dollars."

The significance of the editorial, if it has any, really, is that here the thoroughly discredited U.T.W. is raking the T.W.U.A. over the coals—questioning not only its merger intentions but its mode of operation and the integrity of its leadership. And yet the editorial closes with: "Our door is open to any constructive desire by T.W.U.A., devoid of personalities and vested interest, to negotiate an honorable merger." In other words, the U.T.W. is confident that the T.W.U.A. ain't no better than the U.T.W. And, that being the case, the U.T.W. can think of at least 800,000 reasons for leaving its door open for that merger.

The Figures Speak Well

THE business economy of the seven Southeastern states of Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina and Tennessee was still in a strong position at the end of the first quarter of 1958 despite some sags here and there from the record high levels of 1957, according to figures released recently by the U. S. Department of Commerce.

Basing its statement on final figures in most major segments of the region's business operations, the Commerce Department said reports on such activities as construction, banking, over-all consumer buying, some phases of the area's transportation system, and the Southeast's burgeoning poultry industry even showed a liberal sprinkling of "plus signs" this year over last.

All operating banks in the Southeastern states had around 15¾ billion dollars on deposit, a gain of four per cent over 1957. Checking accounts for consumer buying and other activities in Federal Reserve member banks exceeded $33.1 billion, an increase of seven per cent.

One soft spot in the trading picture was the decline in department store transactions, which were off in most of the areas in which the Federal Reserve District Banks con-

duct surveys. Over-all retail buying, however, was down only one-tenth of one per cent in the area as compared with a national average decline of four per cent.

Reporting on new businesses, the Commerce Department pointed out that Alabama, South Carolina and Tennessee reported gains in the number of new business incorporations, although declines among the other states resulted in an over-all decrease of five per cent. Altogether there were 4,433 new business incorporations during the first quarter.

In farming, four of the seven states—Alabama, Georgia, Mississippi and North Carolina—reported gains in cash farm income in the first two months of the quarter. The entire region reported a one per cent decline in cash farm income for the period. Cash receipts to farmers during the period totaled almost a half-billion dollars.

Florida, Georgia, Mississippi, South Carolina and Tennssee reflected more or less substantial increases in the production of electric energy for utility and industrial purposes, with the result that the region experienced a gain of four per cent over 1957. In the nation as a whole, a slight decline took place.

The brightest spot in the Southeastern economic picture was in the construction industry. Not only did most of the metropolitan and non-metropolitan areas in the region report increases in the number of building permits issued for new dwelling units, but in the South as a whole in the first two months of the year the value of all building permit activity was up six per cent and the number of new dwelling units was up 12 per cent. The nation as a whole showed declines of three and two per cent, respectively, according to the Department of Commerce.

While construction presented the brightest picture, over-all employment constituted the darkest. Manufacturing jobs were off four per cent although nearly 1.8 million workers continued to turn out billions of dollars worth of goods. Insured unemployment increased by 55 per cent, with all of the seven states reporting substantial gains over 1957.

How active was the textile industry during the first quarter? According to Commerce Department figures, there were roughly 208,000 fewer spindles in place on March 29, 1958, than there were on March 30, 1957. Alabama reported a five per cent decline from 1,679,000 spindles in 1957 to 1,598,000 in 1958. Georgia's total dropped four per cent, from 3,130,000 to 3,002,000. North Carolina showed a one per cent drop from 5,904,000 to 5,863,000. Tennessee also experienced a one per cent decline, dropping from 513,000 to 506,000.

In South Carolina, the trend was reversed, with the Palmetto State reporting a one per cent increase in the number of spindles in place. With 6,585,000 spindles in place at the end of the first quarter, South Carolina led all other Southeastern states.

In the number of active spindles consuming 100 per cent cotton, the Southeast as a whole reported a decline of two per cent. Georgia experienced the largest percentage of inactive spindles, reporting a five per cent decline from the first quarter of 1957. North Carolina reported a three per cent decline; Alabama reported a two per cent drop; and Tennessee experienced a drop of one-half of one per cent. Again South Carolina reversed the trend, reporting an increase of four-tenths of one per cent in spindle activity.

In reporting on the consumption of cotton, the Department of Commerce figures show a decline of six per cent during the first quarter of 1958 as compared with the first quarter of 1957. The U. S. as a whole experienced a seven per cent decline. Figures showing the amount of cotton on hand—either in consuming establishments, public storage or at compresses—point up that cotton stocks were 15 per

TEXTILE INDUSTRY SCHEDULE

— 1958 —

Sept. 9-10 (Tu-W)—Fall meeting, **THE FIBER SOCIETY**, Montreal, Canada.

Sept. 9-10 (Tu-W)—Fall Meeting, **THE FIBER SOCIETY**, Montreal, Canada.

Sept. 11-12 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSOCIATION**, The Cloister, Sea Island, Ga.

*Sept. 13 (Sa)—South Central Section, **A.A.T.C.C.**, Hotel Patten, Chattanooga, Tenn.

*Sept. 13 (Sa)—Southeastern Section, **A.A.T.C.C.**, Ida Cason Gardens, Chipley, Ga.

*Sept. 18-19 (Th-F)—Golf tournament and outing, **CHATTANOOGA YARN ASSOCIATION**, Read House, Chattanooga, Tenn.

*Sept. 19-20 (F-Sa)—Piedmont Section, **A.A.T.C.C.**, Hotel Charlotte, Charlotte, N. C.

Sept. 25-26 (Th-F)—Fall meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Oct. 1-2 (W-Th)—Seventh annual **CHEMICAL FINISHING CONFERENCE** (sponsored by the National Cotton Council), Washington, D. C.

Oct. 6-10 (M-F)—**SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 9-10 (Th-F)—Annual meeting, **NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Carolina Hotel, Pinehurst, N. C.

*Oct. 10 (F)—Fall meeting, **SOUTHERN TEXTILE OVERSEERS ASSOCIATION**, Greenville, S. C.

Oct. 14-17 (Tu-F)—Fall meeting, **A.S.T.M. COMMITTEE D-13 ON TEXTILES**, Sheraton-McAlpin Hotel, New York City.

Oct. 21-22 (Tu-W)—**THE 1958 COTTON SPINNER-BREEDER CONFERENCE**, Lubbock, Tex.

Oct. 23-24 (Th-F)—Fall meeting, **SOUTHERN TEXTILE METHODS AND STANDARDS ASSOCIATION**, The Clemson House, Clemson, S. C.

Oct. 25 (Sa)—Fall meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Alabama Polytechnic Institute, Auburn, Ala.

Oct. 28-29 (Tu-W)—Technical Advisory Committee and Board of Trustees meetings, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

*Oct. 28-31 (Tu-F)—Annual meeting, **CARDED YARN ASSOCIATION**, The Homestead, Hot Springs, Va.

Oct. 30-Nov. 1 (Th-Sa)—National convention, **AMERICAN ASSN. OF TEXTILE CHEMISTS & COLORISTS**, Conrad Hilton Hotel, Chicago, Ill.

*Oct. 30-Nov. 1 (Th-Sa)—Fall meeting, **J. E. SIRRINE TEXTILE FOUNDATION**, Clemson, S. C.

Nov. 7-8 (F-Sa)—**TEXTILE SEMINAR** (sponsored by the University of Georgia Division of Clothing and Textiles in Extension, Teaching, Research), Georgia Center for Continuing Education, Athens, Ga.

*Nov. 8 (Sa)—Fall meeting, **TEXTILE OPERATING EXECUTIVES OF GEORGIA**, Georgia Tech, Atlanta.

— 1959 —

Mar. 19-21 (Th-Sa)—Annual convention, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Palm Beach Biltmore Hotel, Palm Beach, Fla.

Apr. 29-30 (W-Th)—Spring meeting, **THE FIBER SOCIETY**, Fontana Village, N. C.

*May 12-14 (Tu-Th)—**COTTON RESEARCH CLINIC** (sponsored by the National Cotton Council), The Grove Park Inn, Asheville, N. C.

*June 18-20 (Th-Sa)—51st Annual Convention, **SOUTHERN TEXTILE ASSOCIATION**, The Ocean Forest Hotel, Myrtle Beach, S. C.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday

**Listed for the first time this month. ‡Tentative listing. †Changed or corrected from previous issue.*

cent lower on March 19, 1958, than they were on March 30, 1957. North and South Carolina reported declines of three per cent; Tennessee 13 per cent; Alabama 25 per cent; and Georgia 27 per cent.

How Union Men View Labor Problems

REPRESENTATIVE Charles E. Chamberlain of Michigan's Sixth Congressional District recently conducted a survey among workers in his district to gauge their thinking on some of organized labor's current problems. Ninety per cent of those queried are active dues paying union members; all responses were from hourly wage employees only. Following are replies to some of the survey questions, tabulated in percentage points.

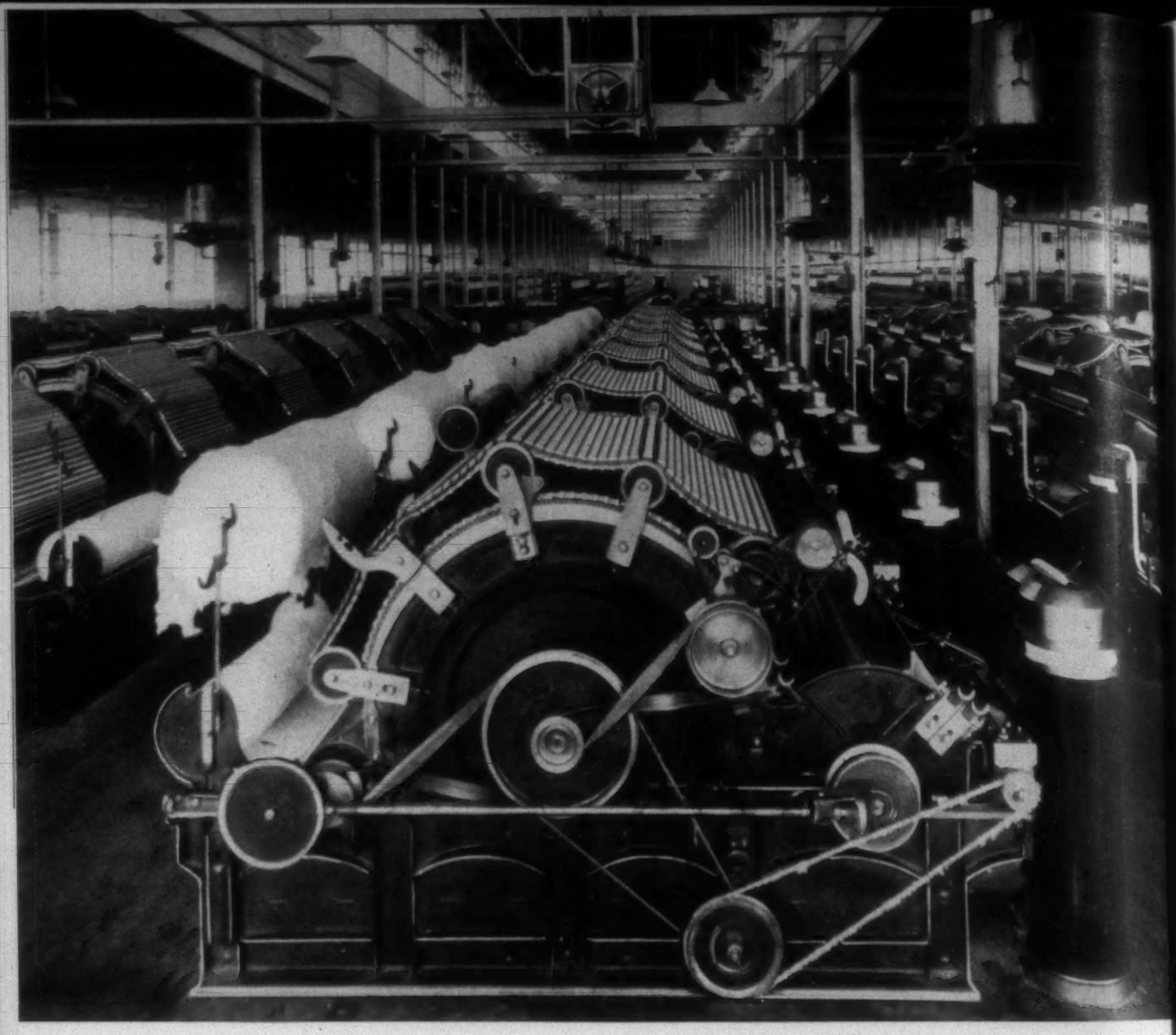
	Yes	No	No Opinion
Do you favor Federal legislation, as recently passed by the House, to assist in providing for an extension of unemployment benefits?	79	12	9
Do you favor repeal of the 10 per cent automobile excise tax?	78	13	9
Should public reports be required in connection with welfare and pension funds?	79	8	13
Should labor unions be made to file financial reports?	94	4	2
Should employers be required to file reports of financial dealings with unions?	88	6	6
Do you favor secret ballots for union elections?	79	17	4
Should misuse of union funds be made a Federal offense?	92	4	4
In view of present economic conditions, do you favor—			
A. Wage increases?	11	53	36
B. A profit-sharing plan?	25	39	36
C. Holding wages and prices as much as possible?	82	4	14
To avoid possible labor strife at this time, do you believe labor and management leaders should be urged to renew existing union contracts?	77	14	9
Do you object to the manner in which union dues are used?	63	22	15
Do you believe that the policies adopted by union leaders represent the thinking of rank and file union membership?	16	70	14
Do you belong to a union?	90	10	—
Are you now employed?	81	19	—

We sincerely hope Congressman Chamberlain can get his congressional colleagues to reflect soberly on the results of this survey when next they are briefed by union management on the grass roots thinking of the American worker.

A backwoods community had a reputation for not keeping its ministers for more than three or four months. Finally, the bishop sent a young preacher, and after two years he was still on the job.

Surprised, the bishop pressed for an explanation.

Reluctantly, a local townsman replied, "Well, I'd ruther not tell you. But if you insist, here's the reason: We folks out here don't really want any preacher at all and he's the closest we've ever come to it."—Rotaryarns



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Use of Multifak also saves time and money by cutting lubricant inventory. And because it's the *right* lubricant for so many jobs, there's far less chance of lubrication error.

A Texaco Lubrication Engineer will gladly show you how Multifak can help you simplify lubrication throughout your mill—and give you more effective lubrication at less cost. Just call the nearest of the more than 2,000 Texaco Distributing Plants in the 48 States, or write: The Texas Company, 135 East 42nd Street, New York 17, N. Y.

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

(PARTS, INVENTORY, PRODUCTION, DOWNTIME, MAINTENANCE)

textile bulletin

VOL. 84 JULY 1958 NO. 7

Highlights From The GOLDEN ANNIVERSARY CONVENTION Of The SOUTHERN TEXTILE ASSOCIATION

THE Southern Textile Association's 50th birthday party drew some 700 persons to the Grove Park Inn at Asheville, N. C., last month, making the group's golden anniversary meeting the largest in association's history. Highlighting the meeting were:

(1) An address by Dr. Frank J. Soday, vice-president, research and development, The Chemstrand Corp., Decatur, Ala.

(2) An address by Halbert M. Jones, president of the American Cotton Manufacturers Institute and the North Carolina Textile Manufacturers Association.

(3) An address by Major General John B. Medaris, commanding general of the U. S. Army Ordnance Missile Command, Redstone Arsenal, Huntsville, Ala.

(4) A special tribute to all living past presidents of the S.T.A.

(5) The election of Walter Vincent, Dan River Mills, Danville, Va., as president of the association for the coming year.

The Southern Textile Industry

Dr. Soday, in a paper entitled "The Textile Industry—Basis for Southern Industrial Growth," traced the growth of the textile industry in the South during the last 50 years, and reviewed the prospects for the continued industrialization of the area in the years ahead. He called attention to the fact that while the textile industry is the South's fourth largest industry, it has not kept pace with the growth of industry in general.

"The textile industry as a whole," he said, "is in the strongest position in its entire history. The productivity per man-hour of the industry has risen at the rate of 3.6 per cent per year since World War II, which compares favorably with the average for all industry. Today's equipment is vastly more productive than in the past, so that while we have been discarding 930,000 spindles a year and replacing only 370,000 for the past 30 years, the capacity of the industry is virtually in balance with normal demand.

"With its excess fat trimmed off and its productive muscles in the best condition ever, the industry is in excellent fighting trim and can look forward to again becoming a dynamic growth industry in the Golden Sixties."

A Time For Self-Examination

Halbert M. Jones brought to the convention a review of the problems and opportunities now before the industry. He warmly praised the industry's operating executives for their success in improving quality, lowering costs and increasing efficiency in the mill, calling these accomplishments an outstanding credit to the industry. "If results of comparable excellence had been achieved in other areas (of the industry) the present position of the textile economy would be infinitely better," he remarked.

For the textile industry to return to a level of profitability comparable to that of other industries, he said, it will be essential for management to deal more effectively with such functions as merchandising, market development and sales promotion. "In spite of all our experience," he said, "we have not learned how to intelligently merchandise the product of this textile industry in which there is, and un-

More than 700 S.T.A. members and their wives attended the Golden Anniversary Convention. The turn-out was so large that the Grove Park Inn, in order to feed everybody as quickly as possible, moved its buffet lines on opening night from the hotel's not small dining room to its vast Great Hall.

doubtedly will continue to be, overcapacity and the potential for production in excess of real demand."

The Space Race

General Medaris, one of the country's top authorities in the missile field, briefly outlined activities under his command at the Redstone Arsenal and commented on the role the South is playing in the nation's rapidly expanding missile program. "It may well be," he said, "that the South is destined to become the center for space-related industry just as Detroit represents the major automotive concentration and the West Coast became the center of the aircraft industry."

Significantly the general, as did the convention's other two guest speakers, spoke critically of the technical educational facilities available in the South, specifically, and in the nation as a whole. This is an era of complex scientific and technological endeavor, he said. "The child of the Space Age, the latter day descendant of the child of the Age of Steam, must learn early that the rewards of achievement come only from his own honest efforts; and that without self-disciplined effort, he will accomplish nothing worthwhile."

Tribute To Past Presidents

A very special feature of the golden anniversary convention was a tribute to the association's past presidents in recognition of their role in the management of S.T.A. activities down through the years. Twenty-four of the association's 26 living past presidents attended the convention. Each was presented a walnut-framed scroll commemorating the golden anniversary and expressing the association's gratitude for their individual counseling during their respective presidencies. Extending an official welcome to all past presidents was Smith Crow, vice-president of Erlanger Mills, Lexington, N. C., himself a past president. J. A. Chapman Jr., vice-president of Inman (S. C.) Mills, who served as president in 1955-56, made the presentations. Carl R. Harris, vice-president of Erwin Mills, Durham, N. C., was called on to present the scroll to J. A. Chapman Sr., president of Inman Mills. In doing so he called attention to the fact that the Chapmans are the only living father-son combination to have served as presidents of the association. The late F. Gordon Cobb, president of the S.T.A. in 1919-20, to whom special tribute was paid, and his son, Joseph C. Cobb, president in 1943-44, were still another father-son combination to occupy the presidency. A brief response to the official welcome and tribute was given by J. A. Chapman Sr. following presentation of the scrolls.

Election Of Officers

In the annual election of officers, Walter Vincent of Dan River Mills, Danville, Va., was elevated from first vice-presidency to succeed Horace Pennington, Cone Mills Corp., Greensboro, N. C., who was named chairman of the board of governors. Advancing from second to first vice-president was Joe N. Jenkins of The Kendall Co., Pelzer, S. C. R. M. McCrary of Carolinian Mills, High Shoals, N. C., was elected to succeed Jenkins as second vice-president.

In the election of board members, three of the retiring members were re-elected to four-year terms expiring in 1962. They were Joseph F. Chalmers of Greenwood (S. C.) Mills; Herman Cone of Cone Mills Corp., Greensboro, N. C.; and L. W. Thompson, Riverdale Mills, Enoree, S. C. Charles H. Ward of Highland Cotton Mills, High Point, N. C., was elected to the fourth board vacancy, in which post he succeeds R. M. McCrary.

Continuing board members include M. L. Brackett, Highland Park Mfg. Co., Charlotte; L. A. Crawford, Joanna (S. C.) Cotton Mills Co.; J. C. Farmer, Henderson (N. C.) Cotton Mills; D. H. Roberts, Lydia Cotton Mills, Clinton, S. C.; Troy H. Carter, Woodside Mills, Greenville, S. C.; J. T. Chalmers, Orr Mills, Anderson, S. C.; J. R. Gilbert,

Current officers and members of the board of governors in attendance at the S.T.A.'s Golden Anniversary Convention included *(first row, left to right)* Horace Pennington, Cone Mills Corp., Greensboro, N. C., chairman of the board; Walter Vincent, Dan River Mills, Danville, Va., president; Joe N. Jenkins, The Kendall Co., Pelzer, S. C., first vice-president; R. M. McCrary, Carolinian Mills, High Shoals, N. C., second vice-president; J. T. Chalmers, Orr Mills, Anderson, S. C.; Jesse Boyce, Erwin Mills, Durham, N. C.; W. B. Etters, Reeves Bros. Inc., Spartanburg, S. C.; and J. W. Inscoe, Carolina Mills, Maiden, N. C. *(Second row, left to right)* H. W. Buchanan, Erlanger Mills, Lexington, N. C.; Nelson W. Kessell, P. H. Hanes Knitting Co., Hanes, N. C.; L. W. Thompson, Riverdale Mills, Enoree, S. C.; Herman Cone, Cone Mills Corp., Greensboro, N. C.; J. F. Chalmers, Greenwood (S. C.) Mills; D. H. Roberts, Lydia Cotton Mills, Clinton, S. C.; R. Carter Henry, J. P. Stevens & Co., Piedmont, S. C.; M. L. Brackett, Highland Park Mfg. Co., Charlotte; and Jack Kissiah, Clark Publishing Co., Charlotte, N. C.

Entertainment at the Golden Anniversary Convention included two nights of dancing to the music of Dean Hudson and his orchestra.

Hart Cotton Mills, Tarboro, N. C.; Nelson W. Kessell, P. H. Hanes Knitting Co., Hanes, N. C.; Jesse Boyce, Erwin Mills, Durham, N. C.; R. Carter Henry, J. P. Stevens & Co., Piedmont, S. C.; Rodger Hughes, Reeves Bros. Inc., Spartanburg, S. C.; and J. W. Inscoe, Carolina Mills Inc., Maiden, N. C.

Associate Member Officers

The associate members division, at a business meeting preceding the convention's closing session, named Richard W. Dunn of Whitin Machine Works, Spartanburg, S. C., to succeed Charles C. Switzer as chairman of the division. Switzer, with Keever Starch Co. at Greenville, S. C., was named chairman of the associate member council to succeed George Batchelor of Odell Mill Supply Co., Greensboro, N. C. Named vice-chairman of the division to succeed Dunn was E. Haines Gregg, Carter Traveler Co., Gastonia, N. C.

Elected to two-year terms on the associate member council were Paul Wilson, Draper Corp., Greensboro, N. C.; Richard McPhail, Watson & Desmond, Charlotte; Joe Bowler, The Terrell Machine Co., Greenville, S. C.; William Dobson, Olney Paint Co., Spartanburg, S. C.; and John Cook, *Textile Industries*, Atlanta. George Archer, Pneumafil Corp., Charlotte, was elected to fill out Gregg's term on the council which expires in 1959.

The President's Report

By HORACE PENNINGTON
Cone Mills Corp.
Greensboro, N. C.

BEING in the textile business all my working life, I have seen many changes and many serious problems confront this industry. We have many problems today. We'll always have problems. But that shouldn't disturb us. Problems inspire solutions, and as long as we tackle problems intelligently and diligently, we will make progress and open up new frontiers of knowledge.

There is one problem, however, that worries me more than any other today. I consider its ultimate effect so damaging, that I felt I should speak to you about it. I am referring to the growing problem of attracting trained and competent manpower into our industry.

The textile industry's manpower problem is two-fold as

A feature of the S.T.A.'s Golden Anniversary Convention was a special tribute honoring all past presidents of the association. On hand for the tribute were *(first row, left to right)* Smith Crow, Erlanger Mills, Lexington, N. C.; Carl R. Harris, Erwin Mills, Durham, N. C.; L. L. Brown, Malvern, Ark.; J. A. Chapman, Inman (S. C.) Mills; John W. Clark, Randolph Mills, Franklinville, N. C.; J. O. Corn, Union, S. C.; V. E. McDowell, Rosemary Mfg. Co., Roanoke Rapids, N. C.; and J. C. Cobb, Charlotte.
(Second row, left to right) **T C. Pegram, Erwin Mills, Durham, N. C.; Frank K. Petrea, Randolph Mills, Concord, N. C.; J. A. Chapman Jr., Inman (S. C.) Mills; M. Weldon Rogers, Exposition Cotton Mills, Atlanta; B. M. Bowen, Salisbury, N. C.; A. R. Marley, Erwin Mills, Erwin, N. C.; and E. M. Holt, Cone Mills Corp., Greensboro.**
(Third row, left to right) **J. O. Thomas, Fieldcrest Mills, Leaksville, N. C.; J. L. James, Salisbury, N. C.; John M. Caughman, Spartan Mills, Spartanburg, S. C.; W. M. Pittendreigh, Riegel Textile Corp., Ware Shoals, S. C.; D. A. Purcell, Fieldcrest Mills, Fieldale, Va.; T. I. Stafford, Clifton (S. C.) Mfg. Co.; Horace Pennington, Cone Mills Corp., Greensboro; and J. L. Delany, Joanna (S. C.) Cotton Mills Co. Other living past presidents include R. T. Stutts, Carolinian Mills, High Shoals, N. C.; Culver Batson, Wadmalaw Island, S. C.; and Fred L. Still, Belle Vue Mfg. Co., Hillsboro, N. C.**

New S. T. A. Officers

Walter Vincent

Walter DuRelle Vincent of Dan River Mills, Danville, Va., newly elected president of the Southern Textile Association, has been active with the S.T.A. since 1947. He has served both as chairman and as a member of the executive committee of the association's Northern North Carolina-Virginia Division; and as a member of the board of governors. He was named second vice-president in 1956 and was elevated to first vice-president in 1957. A native of Savannah, Ga., Vincent graduated from Clemson College in 1929 with a Bachelor of Science degree in textile industrial education. From 1929 to 1935 he was an instructor in the public schools of Great Falls, S. C. He was named principal of the Danville Textile School, Danville, in 1935. In 1941 he was named personnel director of Dan River Mills, and in 1945 he was named mill superintendent. Currently he is superintendent of Dan River's Schoolfield Division No. 1. An elder in the Presbyterian Church, Vincent holds membership in the Danville Kiwanis Club, of which he is a past director; and in the Iota Lambda Sigma Fraternity at Clemson.

Joe N. Jenkins

Joe N. Jenkins, superintendent of the Lower Plant of The Kendall Co., Pelzer, S. C., the S.T.A.'s new first vice-president, has served as chairman of the association's South Carolina Division and this year completed a one-year term as second vice-president. His elevation to first vice-president places him in line for the presidency in 1959-60. Jenkins began his career in the textile industry in 1932 as a sweeper at Pelzer (S. C.) Mfg. Co. He was named superintendent of The Kendall Co.'s Upper Plant in 1950, and has been superintendent of the Lower Plant since 1956. A native of Pelzer, he is a member of the Baptist Church and the Pelzer Lions Club.

R. M. McCrary

Robert M. McCrary, superintendent of Carolinian Mills, High Shoals, N. C., is the newly elected second vice-president of the S.T.A. A graduate of Clemson College, McCrary previously has served as chairman of the association's Piedmont Division, and as a member of the board of governors. His election as second vice-president places him in line to accede to the presidency in 1960-61. A native of Pendleton, S. C., McCrary has been active in the textile industry since 1935. Following graduation from Clemson in that year, he has been associated with Gossett Mills at Anderson and Williamston, S. C.; with Martinsville (Va.) Cotton Mill Co.; and Laurens (S. C.) Mills. He has been superintendent of Carolinian Mills since 1947.

I view it. First, there are fewer and fewer high school graduates seeking jobs in the industry. Too many of those who finish high school and do not go to college are seeking job opportunities elsewhere. Thus, the all-important supply of young blood feeding in at the bottom of the organization is declining. These are the people who would eventually perform our skilled jobs, fill our supervisory positions. This trend must be halted.

The other aspect of the manpower problem is the declining enrollment in the textile colleges. There has been a tremendous drop in the number of technically trained men being graduated by the textile schools in the last ten years. To quote a few figures, in 1948 there were 968 students enrolled in the School of Textiles at North Carolina State College. In 1958, there were 368—a drop of 600 students or only a third as many as there were ten years ago. This is disturbing because the need for technically trained men continues to be high in spite of relatively poor business conditions in the past few years.

The industry is becoming more scientific, and employees with specialized skills are needed in ever increasing numbers to meet this challenge. A survey made recently in North Carolina textile companies estimated the industry in this state alone will need during the next five years some 1,600 textile engineers, 552 textile chemists, 320 industrial engineers and 256 mechanical engineers. Although I've cited only the figures for North Carolina, the same problems exists in the neighboring states of South Carolina, Georgia and Alabama. The textile schools cannot begin to supply the demand for this many students.

What's caused this declining interest in textile careers? Several reasons have been advanced. In the last decade, other fields have become more attractive, particularly engineering, electronics and chemicals. Great expansions in these fields have lured away many potential textile students. A second reason for this decreasing interest is that our industry has failed to realize the need for selling itself to the high school students. We have been working mighty hard to sell our products, but not our industry. Not only have we failed to accentuate the positive things about our business, but I'm afraid that, unwillingly, we have made the problem worse by emphasizing the negative aspects.

The textile industry has been beset with many difficulties in recent years—overproduction, curtailment, short time, foreign competition, business failures, Governmental policy on cotton pricing, etc. Our public relations have focused on these things to the extent that young students are being scared away. I don't mean to imply that these problems aren't real. They are real; they are serious; and they deserve our most careful attention. But put yourself in the shoes of a young man who is ready to choose a career. The vast majority know little or anything of the challenging opportunities that await them in textiles. They do not know that a career in textile management is rewarding and compares favorably with similar careers in other industries. They know only what they read in the papers and what they hear from friends. And based on these sources of information, they can hardly be blamed for choosing other fields in which to work.

Well, what can be done about this situation? For one thing, we can begin to accentuate the positive and reduce the negative in our public relations. Let's talk more about the advances in product and process development, and less about hard times. Let's talk more about career opportunities

for qualified personnel, and less about layoffs. Let's take advantage of every opportunity to talk to high school students in our communities and tell them about our industry.

Not only should we talk about career opportunities, but we should be doing something positive about them. We should take a close look at our training and development activities to make sure we are utilizing manpower to best advantage. We should have an up-to-date inventory of the promising employees in our companies and make certain they are properly trained and promoted when openings occur. And, of course, not to be overlooked are the salary and other financial benefits, particularly for educated and trained personnel. We should constantly review the pay scales and keep them attractive enough to compete with other industries.

While I consider the problem of manpower the greatest difficulty facing the textile industry in the next decade, I'm not overly discouraged about it. I think this is another in a long series of problems confronting us over the years and, like the others, I believe it can be licked. I'm confident that our managements are capable of solving in time any problem which seriously concerns them. If they tackle this one with the same ingenuity, resourcefulness and persistence that they have others in this competitive age, I have no doubt about the ultimate outcome.

Barrie, Seals

M. E. Seals, Carlton Yarn Mills, Cherryville, N. C., won members' low gross in the S.T.A.'s 18-hole golf tournament. The victory was his third, and thus gave him permanent possession of the Corn Products Co.'s challenge cup. Frank Barrie, Universal Winding Co., awarded golf prizes in the absence of W. S. Terrell, Terrell Machine Co., chairman of the golf tournament.

The Textile Industry: Basis For Southern Industrial Growth

By FRANK J. SODAY
The Chemstrand Corp.
Decatur, Ala.

WHEN the Southern Textile Association was formed 50 years ago, 37 per cent of the country's cotton textile mills were in the South. Today some 80 per cent of the cotton spindles of this country are in the South. This Southward movement of the textile industry back at the turn of the century provided the strong and enduring base upon which Southern industry has been built since that time. Cotton mills were followed by rayon and acetate mills; wool and synthetic fiber mills have been added in recent years. By 1939, 35 per cent of the country's textile industry was in the South, increasing to 47 per cent in 1947 and to 56 per cent in 1957. By 1967 the South should have 65 per cent of the industry.

Fourth Largest

The Southern textile industry is made up of 2,400 mills, 600,000 employees and produces goods valued at $7 1/3 billion. It is the South's fourth largest industry, and ranks eleventh ($1.3 billion) in the nation. The combined textile-apparel industry is the South's second largest industry ($10 billion) and the fifth largest (26.4 billion) in the nation.

At the same time, it has not kept pace with the growth of industry as a whole. The Southern textile industry has increased in size 5½ times since 1939, while all Southern industry has increased in size seven times during the same period. For the country as a whole, manufacturing has increased in size 5 2/3 times since 1939, while the textile industry has increased by 3 1/3 times.

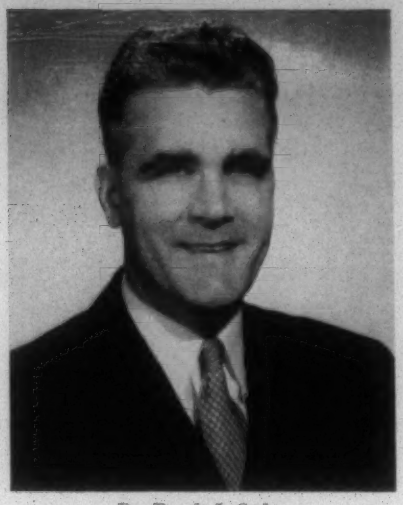
This, of course, is a reflection of the fact that the proportion of the consumer dollar devoted to textiles has decreased during the same period in favor of other items. The per capita consumption of fibers has increased by only 12 per cent since 1939, equivalent to 1½ per cent per year, while the per capita consumption of a number of other important items has doubled during the same period.

Each of us is faced with a host of new products competing for a share of our spending money. The majority of these are the products of research and development, which is one of the fastest growing segments of our industrial economy. Starting with an annual expenditure of under $1 billion in 1939, the amount spent in this activity during the current year will exceed $8 billion. The products of this work are reaching the market in ever increasing numbers.

Textile Research Lagging

In textiles, the research picture is not a bright one. While industry as a whole spends an average of two per cent of sales annually on research, the textile industry spends only 0.1 per cent. This does not reflect any lack of interest in this important field on the part of the textile industry, but ony lack of means. Plagued with over-capacity and increasing foreign competition, the industry has had a difficult time in maintaining its position, and its profits have not kept pace with those of other major industries.

An average of seven years elapses between the initiation of research and the marketing of the products resulting from such work. The new products on the market today competing for the consumer dollar are largely the result of research work initiated in 1951, when the total research bill was $2½ billion. With research expenditures now three times as high, in 1965 we shall have an even greater competition in the market place. The fact that the textile



Dr. Frank J. Soday

industry has not been able to compete in this field on an even basis is one reason for the prediction made some time ago by one of the auhtorities in the field that the proportional expenditures on soft goods will be down by two per cent by 1965.

Fortunately, the textile industry is well aware of this problem and determined efforts are being made to bolster the position of the industry in the research field. Developments during the past few months lend encouragement to the view that the textile industry will assume a more commanding position in the research field. The rewards are high, as competent authorities have computed that the return on the industrial research dollar is 1200 per cent.

The textile industry, as a whole, is in the strongest position in its entire history. The productivity per man-hour of the industry has risen at the rate of 3.6 per cent per year since World War II, which compares favorably with the average for all industry. Today's equipment is vastly more productive than in the past, so that while we have been discarding 930,000 spindles a year and replacing only 370,000 for the past 30 years, the capacity of the industry is virtually in balance with normal demand. In cotton spinning, we are producing 50 per cent more goods with 50 per cent less equipment than we did in 1925.

The Golden Sixties

With its excess fat trimmed off and its productive muscles in the best condition ever, the industry is in excellent fighting trim and can look forward to again becoming a dynamic growth in the Golden Sixties. By 1965, population will have increased by 17 million, and per capita fiber consumption will be up by about 20 per cent, reflecting the penetration of fabrics into new markets, such as reinforced plastics. The amount of disposable income will increase, with an estimated 25 per cent increase for clothing. Home construction will be up by 25 per cent. Given means to provide the new products required by this rapidly expanding economy, and making full use of the new fibers available, the textile industry can indeed look forward to a more rewarding future.

* * * * *

The Synthetic Fiber Field

In the field of resources for new industry, the South is more richly endowed than any other section of the country. Of even greater importance is the fact that it is making rapid progress in developing a leading position in a large number of highly technical industries. An outstanding example is the synthetic fiber industry which started from scratch less than 20 years ago with the development of nylon. Today it is a billion dollar industry, and a Southern industry. All of the manufacturing plants now in operation are located in a rather narrow belt extending from Delaware to Alabama. In addition, all new plants now under construction are in the same area.

The location of this important industry wholly in the South is a direct result of the region's commanding position as a cotton producing area. Since the textile industrty represents the largest single outlet for chemicals, the South started to produce these basic materials to supply this growing market. Today, 39 per cent of the chemical industry of the country is located in the Southern states. As chemicals provide the basic raw materials for the production of synthetic fibers, and since the established textile industry can readily convert the fibers to fabrics and garments, the South was the only logical location for the chemical fiber industry.

Starting with the introduction of nylon by Du Pont in 1939, the industry has enjoyed a phenomenal rate of growth, expanding 50-fold in 15 years. Present sales are at the rate of 500 million pounds annually, which, with the auxiliary chemicals used in the conversion of the fibers to fabrics, makes it a billion dollar industry. And its future looks equally bright. The President's Materials Policy Commission has estimated that the production of synthetic fibers will be at the rate of four billion pounds annually by 1975, a quantity equivalent to eight million bales of cotton.

The South is in the happy position of being in the winner's corner regardless of the outcome of the competition between synthetic and natural fibers for various segments of the textile trade. Her broad cotton fields and modern synthetic fiber plants will continue to take care of the major portion of the country's textile requirements.

* * * * *

Scarcity Of Technical Graduates

The most important problem confronting the South today is the scarcity of technical and engineering personnel. With some 25 per cent of the country's industry, the South is graduating only 17 per cent of its scientists and engineers at the Bachelor's level, 17 per cent at the Master's level, and 14 per cent at the Ph. D. level.

The magnitude of this problem may be realized by a consideration of the $8 billion loss incurred by the South each year due to its inability to properly educate its young people. A recent survey shows that less than half of the high school graduates in the area with an I. Q. of 132

Industry In The South

Type	Output in $ Billions	Per Cent in South
Food Manufacturing	11	24
Chemicals	8	39
Oil-Coal Products	7	35
Textiles	7	52

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(the Ph. D. level) finish college. This means that for each of the 80,000 college graduates in the South last year, another boy or girl of equivalent intellectual ability was unable to attend college due to inadequate facilities or finances.

While it was not to be expected that Southern schools could take care of the immediate technological needs of industry in the area, due to its rapid rate of growth, they must be prepared to do so within a reasonable period of time. Industries will not continue to expand in an area incapable of supplying the most indispensable personnel required for their operation. Fortunately the seriousness of this situation is recognized by several Southern states, and active measures are being taken to increase the output of technical and engineering graduates. The future of industry in the South depends upon the success of this undertaking.

Halbert M. Jones

The Textile Industry: A Time For Self-Examination

By HALBERT M. JONES
Waverly Mills Inc.
Laurinburg, N. C.

TEXTILES have been in recession since the Fall of 1955 and have failed to follow the two-to-three year textile cycle which has become rather typical in the past 35 years, except for periods of emergency. The turndown in the general economy last Fall almost certainly prevented an upturn in textiles. This is a time when all of our industries are reviewing their own operations and perhaps it is the time for a survey of our industry, generally, in some of the problems which are before us and the opportunities which we have. This is truly a time of re-examination and self-examination.

Internal Responsibilities

For purposes of classification, let us note that in the textile industry, as in most industries, we are concerned with responsibilities and problems that are internal; that is, largely, those within our own companies and over which we can exercise a rather substantial degree of control. Then there are problems which are internal within the industry; that is, relating to our relations with other companies in the industry and with our markets. These have to do with the areas of merchandising, sales promotion, product selection, and such fields. Then, there are the areas which can be classified as external; that is, problems and opportunities largely outside of our companies but affecting us importantly and over which we can exercise little direct or individual control.

Members of the Southern Textile Association, as operating executives of the industry, probably feel most importantly their responsibility in the internal areas. These areas would include quality of product, cost of manufacture, efficiency of equipment and man power, total production, waste, morale, employee relations, internal communications, etc. In these days of intense competition, excellence of performance in these areas is essential to the success, even the survival, of your company. One fact that we apparently can count on without question is that regardless of market conditions, there will be both efficient and inefficient operations, products of both high and low quality for specific end uses. There will be success and failure. It is vitally necessary that we continue to improve our performance in these internal areas or our own companies will surely fall by the wayside.

Technical Advance

We know only too well that standards of quality, cost and efficiency that were adequate only a few years ago no longer are competitive today. Technical advance is proceeding at an exceedingly rapid pace, even in the textile industry, which, next to agriculture, hunting and fishing, probably constitutes the oldest form of industry in the world. The speed of this advance is underlined by Lewis Powell who has said that "every year, from now on, will see more technological advance than took place formerly in a generation."

Even if our competitive situation would permit, and it does not, there is no room for any complacency in the operating practices and standards in our plants. More efficient equipment, more competent manufacturing supervision and higher employee skills must be the continuing goals for every operating executive.

More Capable People

Here let me pause to say that this means, above all, more capable people. In the past we have emphasized the necessity of well-equipped and planned mills. Often we have not provided the training necessary to increase the skills and the abilities of the people who are to make that equipment more productive and efficient.

I am confident that, in the years ahead, our most significant progress will come through training and educational programs which will increase skills and attract ever more competent people to the textile operations. When you budget for new equipment, be certain, also, to budget for the personnel which will enable you to train and to attract the best available people to your company.

One of the outstanding men who is concerned with

financing textile operations has said that one of the severe problems which he has noticed in the industry results from the fact that in planning for new equipment, textile plants do not normally plan for the upgrading and increase of skills of personnel. This program, of course, will mean in-plant training, but it will also require wide use of vocational training facilities as well as the more intensive training of our textile and other colleges.

Improved Efficiency

In my judgment the job which has been done in the past by our operating executives in improving quality, lowering costs, and increasing efficiency constitutes the outstanding job in the textile industry. Without much question, the textile industry is the most efficient in the use of time and material in our industrial economy. I congratulate you upon those accomplishments.

As a matter of fact, if results of comparable excellence had been achieved in the other areas concerning intra-industry relations and external areas consisting of merchandising, product selection and development, sales promotion, pricing, production management related to market needs, public relations and governmental relations, the present position of the textile industry would be infinitely better.

Effective management of the internal responsibilities is basic to survival in the textile industry, and our operating executives have demonstrated unsurpassed abilities in these areas. We have the most efficient textile industry in the world in the quality of our products, variety and man-hour production. Efficiency of operation may determine survival or modest return on investment.

The ability of the textile industry to return to a level of profitability comparable to that of other industries, however, will depend primarily upon the increasing effectiveness of our managements in dealing with the external problems and influences. One of these areas is that of merchandising, market development and sales promotion. In spite of all of our experience, we have not learned how to intelligently merchandise the product of this textile industry in which there is, and undoubtedly will continue to be, over-capacity and the potential for production in excess of real demand.

Merchandising might be defined as those factors concerned with product selection, product pricing, determination of volume to be produced, styling promotion and sales. These decisions should be made with an over-riding concern for the profitability of the company and with a full understanding of the destructive effects of trying to sell or produce more volume than the market can consume. Too many of our merchandising, production, management and pricing decisions are made by those whose primary concern is either the cost of manufacturing or the total volume of sales.

Not Profit Conscious

In the past, we have been much more cost and volume conscious than we have been profit conscious. Comparison of the operating results of our strongest and best managed textile companies with the results obtained by other industries will demonstrate the validity of this statement. When the executives of this industry do as an effective job in merchandising and production management as is done by operating executives in efficient manufacturing, we shall see a marked improvement in a profit pattern of this industry.

Sound merchandising and production policies to be effective must be operative when business is good and before markets have been demoralized by excess production and inventory accummulation. A real test of management in this industry will come after we have had a recovery in textiles in making merchandising and production decisions

Newly elected officers and council members of the Associate Members Division at the Golden Anniversary Convention included *(first row, left to right)* W. T. Coker, Armstrong Cork Co., Greenville, S. C.; E. Haines Gregg, A. B. Carter Inc., Gastonia, N. C., vice-chairman of the division; Frank P. Barrie, Universal Winding Co., Charlotte; Junius M. Smith, Clark Publishing Co., Charlotte, secretary; Richard W. Dunn, Whitin Machine Works, Spartanburg, S. C., chairman of the division; and Charles C. Switzer, Keever Starch Co., Greenville, S. C., chairman of the council. *(Back row, left to right)* J. Glenn Fisher, Fisher Mfg. Co., Hartwell, Ga.; Dick McPhail, Watson & Desmond, Gastonia; Joe Bowler, The Terrell Machine Co., Greenville, S. C.; Carl M. Chalmers, Texize Chemicals Inc., Greenville, S. C.; A. E. Johnston Jr., Ashworth Bros., Greenville, S. C.; and Paul A. Wilson, Draper Corp., Greensboro, N. C.

which will either undergird the improved conditions or start us again on a new round of over-production, inventory accummulation and market deterioration. These are individual company decisions, but they obviously will reflect the over-all conditions in the particular segment of the textile industry in which a company operates.

External Pressures

Let us assume that we continue to do an increasingly good job in the internal areas of quality, efficiency and cost, and that we learn to do the sound merchandising which matches market with production. The ability of this industry to recover full profit status will certainly be greatly influenced by external factors over which individually we can have directly no control.

It has been demonstrated, to our grief, that we, in textiles, are exceedingly sensitive to actions and policies of the Federal Government which relate either directly or indirectly to textiles. As a highly competitive industry, even relatively small handicaps imposed on the industry result in serious problems. As a matter of fact, some of our most burdensome difficulties have their sources in Federal Government programs and policies, some of which, at least, seem to have as their objectives a liquidation of the domestic textile industry. Two of these are foreign trade policy and raw cotton policy.

The Cotton Policy

Our basic cotton law has three major faults: (1) It made no provision for keeping the price of cotton competitive with foreign cotton and with man-made fibers. (2) It relied on acreage controls to keep production in line with demand. This proved impossible. (3) It was, like all laws, inflexible where nature and the law of supply and demand are completely flexible.

Fundamentally, we feel that there are some changes needed in our agricultural policy toward cotton. I would like to list them again for you:

(1) An immediate and significant increase in cotton acreage.

(2) A forthright procedure for improving the net income position of the cotton farmer.

(3) A one-price system for cotton realistically geared to competitive factors.

(4) Movement of cotton through normal trade channels rather than government hands.

(5) A reduction in the enormous cost of the present cotton program.

(6) The exclusion of any form of processing tax on manufactured cotton products.

We have been peculiarly unsuccessful in getting Congressional or executive action on this program. Unless we can obtain legislation which will put cotton into the channels of trade in this country and abroad at one competitive price, we will have accomplished one thing—the strangulation of the cotton industry as we now know it. The question of price protection of the farmer is actually not a problem here. The problem is whether in their attempt to provide price protection for the farmer the Government is going to continue to price this product out of the market and continue to keep the farmer in a steadily declining economy.

Cotton: A Sick Industry

I think it should be noted here that cotton is a terribly sick industry and this illness is primarily due to the fact that the attempts to cure the primary infection have resulted in a secondary illness of greater proportion. Those who would help cotton by legislation completely ignored the fact that once a commodity is artificially priced too high, then substitutes will take its place in the market. And that is just exactly what has happened to cotton. Man-made fibers have taken a big bite out of cotton's market

An overflow audience heard Major General John B. Medaris, commanding general of the U. S. Army Ordnance Missile Command, Redstone Arsenal, Huntsville, Ala., deliver an address entitled "The Impact of Space Technology."

and so have plastics and paper. Buyers have found the substitutes that they want. And cotton is going to find it extremely difficult to recapture these markets even under a competitive system.

Reciprocal Trade Agreements

We were disappointed over the recent vote in the House of Representatives on extension of the Reciprocal Trade Agreements Act, but the House vote does not alter our determination to try and get something done to provide some degree of reciprocity for the foreign trade program. We want foreign trade on a truly reciprocal basis, and we believe that the other trading nations of the world want to feel that they are full business partners in this matter of trade rather than subsidiaries of the American taxpayer, God rest his patient soul. We have spent years trying to prove that we can buy friendships of other nations. We have had aid programs and trade programs, and I don't believe we have succeeded.

The textile industry does not want the matter of international trade to remain international political trade. We want a truly reciprocal commercial trade agreement. We are tired of watching textile jobs exported because of some dreamer's concept of a utopian one world administered by an all-wise international tribunal. Part of this dream is the General Agreements on Tariffs and Trade, called G.A.T.T., of which the U. S. is a full-fledged participating partner, although without the blessing of Congress. The primary purpose behind G.A.T.T. is to foster multiple instead of bilateral, or country by country, trade bargaining. And this is the very thing that industry in this country objects to. This is the organization that lowered textile tariffs at a time when imports into this country were already on the upswing. And the current economic difficulties of the textile industry, in large part, are traceable to this very action.

Poor Politics

If the State Department thinks this open invitation to low wage goods is good politics, then the State Department is dead wrong. Suppose we let these goods come in. Suppose they are duty free. What are we doing then? We are giving active endorsement to low wage levels in foreign lands. In fact, we are endorsing sweatshop conditions. We are, in effect, saying that those economic practices outlawed years ago in this country are all right for foreign nations. We are giving more than an endorsement to these practices; we are encouraging them by providing an outlet for their products.

The American Tariff League has estimated the cost to a community where 100 jobs are permanently lost, and I think you would be interested to know that employment in the textile mills products industry has dwindled from 1,368,000 in 1948 to 942,000 in February of 1958. The Tariff League found that the loss of 100 jobs permanently costs about $360,000 in annual retail sales; $270,000 in bank deposits; 107 automobile registrations; 112 households; 74 jobs and other enterprises; and four retail establishments. This is quite a price for any one community to pay, and as you can see the textile communities have paid rather heavily.

Let me make it clear at this point that I do not advocate tariff schedules that will protect inefficiencies in American production, nor do I advocate duties that will prevent

foreign goods from competing in the American market. I do advocate schedules that will equalize production costs so that American producers will have a more even break in the competition.

Certainly, it should be clear that under the present machinery of G.A.T.T. we face, at best, an uncertain future. Even though Japanese imports are now under reasonable control, the amounts of fabrics and garments that do come in act as a drag on our market. And that means, of course, that prices stay stagnant, that we continue in a chronic state of semi-depression, and our industry's earning rates remain far below the average of U. S. manufacturing in general. Present conditions certainly do not inspire confidence; they are not the conditions for dynamic textile progress. Those of us who have lived close to the foreign trade problem in recent years are certain that a good part of the answer lies in making a drastic change in our trade agreements machinery.

Trade Act Recommendations

To achieve this, it will be necessary to overhaul the present Trade Agreements Act. We suggest that whatever new legislation is offered it should contain certain essential provisions. It should require bilateral agreements, separately negotiated with principal supplier foreign countries, without using the machinery of G.A.T.T. or any other international organization. It should assure mutually beneficial concessions. It should guarantee means of assuring that parties to agreements live up to their commitments. It should restore control of policy making and agreements to the Congress and eliminate State Department domination. It should invite the advice of private citizens, and provide for complete public information as to details of trade negotiations, agreements and enforcements thereof. It should provide reasonable safeguards against discrimination and other trade abuses, and make escape-clause findings of the Tariff Commission final unless vetoed by the Congress.

I think on this point it is interesting to note that while nearly 3,000 individual tariff rates have been reduced since 1934, often several times, only nine tariff increases had been granted by the end of 1957 on 84 applications under the escape clause, and eight increases on 198 applications under the anti-dumping act. With hope for success so remote, many industries despair of even starting an application. Those industries that do apply have a chance of one in ten to succeeed under the escape clause, and one in 25 under the anti-dumping act.

Fiber Blends

A Report On The Annual Conference Of The Textile Institute . . .

By J. B. GOLDBERG, Chemical Engineer

OVER 350 members and visitors from 17 countries attended the 43rd annual conference of the Textile Institute at Edinburgh, Scotland, during the week of May 12th. Attention was focused on developments in fiber blends since 1952, when the first conference on this subject was held in the same city.

The conference opened with a presentation entitled "Fiber Distribution in Blended Yarns," by A. E. De Barr and P. G. Walker of the British Cotton Industry Research Association. The authors noted the need for specific information pertaining to blending, that is, the effect of fiber properties and processing on fiber arrangements and the effect of fiber arrangement and variations on the appearance and physical properties of yarns and cloth. A comprehensive review of the published work in blending was presented and suggestions offered for further work. Possible methods of measuring blend proportions included alternatives to chemical means, such as yarn stress-strain relationship, air flow determinations, dielectric variations and the use of radioactive tracers.

Another technique envisaged ultilization of photoelectric cell recordings of the arrangement of fibers in blends, identified by use of a different color for each fiber component. The discussion centered about photoelectric, air flow measurements, cross-section study and radioactive tracer methods, with considerable emphasis on how various fibers migrated to the yarn surface. Some technologists observed that shorter fibers, coarser ones and those with a lower modulus (such as acetate in rayon-acetate blends) tended to move to the outside of the yarn.

A representative from British Nylon Spinners reported that their investigations of nylon blends indicated that going well beyond 12 doublings resulted in practically no improvement in blend uniformity. Dr. V. Dischka of the Budapest Research Institute remarked that studies made in their laboratories of blends of cotton with 30 per cent nylon gave less variation when mixing was done by the sandwich layer method.

Filling Bands

In the following paper, also prepared by research workers of the British Cotton Industry Research Association, it was reported that experiments had been conducted with blends of cotton and both undyed and spun-dyed rayon staple to determine the maximum difference that can occur without resulting in visible filling bars in woven fabrics. It was

found that when the blended fibers differed greatly in color, a tolerance of not more than two per cent (52:48 in a 50/50 blend) between adjacent cops must be maintained if no bars were to be visible. A piece-dyed blend of cotton and uncolored rayon, however, did not show well-defined bars until the composition between adjacent cops varied by about five per cent.

In blending fibers of different colors, some combinations were just as sensitive to composition difference (two per cent) as black and white, while black and yellow combinations exhibited a noticeable bar with a difference of only one per cent. Color combinations such as black and blue, white and yellow, yellow and green, yellow and red, and green and blue afforded a higher degree of tolerance (three per cent) before bands became visible.

One of the participants in the conference challenged the speaker's statement to the effect that knitted fabrics were not so sensitive and could have greater tolerances before bands became visible. It is to be noted that man-made fiber manufacturers in the U. S. frequently use circular knitted tubing to determine dyeing uniformity of various lots of their fiber production. Another suggested the use of alternating shuttles on 2 x 2 weaves to more clearly demonstrate the limits of permissable blend variations.

Dr. W. Hamburger, Fabric Research Laboratories Inc., was the first American speaker on the program, presenting a summary of a report prepared by several of his associates on "An Index of Blend Irregularity and Its Practical Use." Their investigation revealed that staple processing machinery does not mix single fibers in a random fashion but results in a decided clustering in single-carded sliver and similar, but less pronounced, clustering in yarns. While successive stages of doubling and drafting from card sliver to yarn reduce size of cluster, doubling alone cannot reduce apparent longitudinal clustering. Drafting must be relied upon for any improvement.

He also observed that there was also no orderly migration of fibers along the axis of spun yarns but a frequent darting of the fibers across and through the yarns as well. Again, members of the audience expressed interest in ascertaining whether stack (or sandwich) mixing produced the most uniform blends. Dr. Hamburger said that in the absence of specific information on this point it was his opinion that machinery improvements were most important if superior results were to be obtained.

The matter of the ageing of man-made fibers before blending was also brought up, with attention called to the critical effects of variations in moisture regain of many of the man-made fibers on the appearance of bars or streaks in finished goods. A comment from a member of the Wool Industries Research Association substantiated an earlier remark to the effect that beyond a certain limit prolonged processing did not result in more even blending.

Courtelle Acrylic Fiber

Messrs. H. D. Edwards and H. Sneyd of Courtaulds Ltd., reported next on the "Effect of Acrylic Blend Composition on Yarn and Fabric Processing and Performance." Considerable interest was displayed in this subject since the authors were primarily concerned with Courtelle. This is Courtauld's new acrylic fiber which is just entering the market abroad in competition with the DuPont Co.'s Orlon acrylic staple and Chemstrand Corp.'s Acrilan fiber, both of which have been imported and have been in commercial use in Great Britain for some time. Chemstrand's new Acrilan plant in Northern Ireland is scheduled to be in operation before the end of this year and Courtaulds is currently engaged in a strong promotional campaign to convince the home market that Courtelle is equal or superior to the American-made products.

Considerable data were presented in the author's paper on general physical properties of Courtelle, processing into yarn on the cotton, modified cotton, woolen and worsted systems; also, tow on the Turbo Stapler and subsequent weaving and knitting operations. Dyeing and finishing operations were similarly described, as well as the effect of blend composition on fabric wet processing. Performance characteristics such as crease-resistance, stability to washing, color-fastness, pilling, behavior in dry-cleaning and Hoffman pressing, pleating, seam strength and resistance to abrasion were each covered in detail in the advance copy of this report, although the speakers limited their verbal remarks to a very brief summary. The cationic dyes are most commonly recommended for Courtelle.

It is interesting to note that it is claimed that recovery from creasing of 100 per cent Courtelle fabrics is of the same order as for 100 per cent wool. Pilling is said to be completely absent in worsted suitings in wear for nearly two years and laboratory tests indicate superior abrasion resistance to 100 per cent wool. Although it was stated that the general principles of the study were applicable to most acrylic fibers composed of at least 85 per cent acrylonitrile, no specific mention was made of Orlon and Acrilan fibers. In view of the fact that some of the claims made by the authors indicate superiority to our domestic acrylics in certain characteristics, further developments will bear close watching by those concerned with either the manufacture or utilization of this class of synthetics. During the discussion period, interest was evidenced in questions regarding high bulk yarns, spinning limits, spinning lubricants, warp sizing and possible dye variations between high and low-shrink fibers.

Comfort And Performance

Particularly well-received was the summary by Dr. R. Peterson, the DuPont Co., of the most interesting paper on "Engineering of Fabrics from Blends with Synthetic Fibers" prepared jointly by the speaker and Dr. R. M. Hoffman. Dr. Peterson expounded on the utilization of a simple formula developed in the company's textile research laboratory for the "intrinsic liveliness" of fiber and "intrinsic bite," indicating how fiber choice may be made in multi-component blends to achieve particular requirements in fabrics. He also commented on more recent developments in the making of filament yarn blends through use of the Taslan texturizing process.

Cited as examples differing from the well-known 100 per cent Taslan processed Dacron polyester, nylon or acetate yarns was a shirting made of a Taslan textured 70/54/0 warp and a filling composed of one end of 40/34 Dacron yarn and one of textured 40/20 rayon and a tropical suiting fabric weighing only 3.4 ounces per square yard composed of Taslan textured 70/14/0 Dacron and 70/45 Dacron combined with Taslan textured 40/20 Cordura rayon. Novel heavy boucle, chenille and angora type yarns were also touched upon. The writer noted that Taslan textured nylon shirtings in fancy patterns are being promoted by several manufacturers of men's shirts in England, whereas

only a limited yardage of Taslan Dacron in plain white only has been marketed in this country.

Evaluation of comfort characteristics of various shirtings disclosed that fabrics composed of Taslan textured Dacron in the warp and a mixture of textured Dacron and rayon in the filling and a similar mixture in both warp and filling rated equal to all cotton of the regular broadcloth, oxford and batiste constructions. The spun batiste shirting of 65 per cent Dacron and 35 per cent cotton was also considered equal to the all cotton batiste in comfort. Another advantage of the fabrics containing either rayon or cotton was a marked reduction in static buildup, with the rayon showing some superiority to the cotton in this respect. Other investigations of comfort factors, disclosed that 80/20 blends of Orlon and rayon or cotton in knit polo shirting under both moderate and hot humid conditions were found more comfortable than either 100 per cent cotton or 100 per cent Orlon.

In fine count broadcloth shirts, blends using one or two denier Orlon with rayon or cotton were judged more comfortable than either 100 per cent cotton or 100 per cent three-denier Orlon. The paper by Hoffman and Peterson also stressed the contributions of Dacron and Orlon to good performance in wash-and-wear fabrics with data presented on the reduction in effort required to iron commercial type fabrics.

The discussion following Dr. Peterson's summary brought out the fact that weaving qualities of the Taslan-rayon mixture fabric were exceptionally good. In staple fiber blends with Dacron, the presence of rayon was credited with contributing superior wash-wear performance, cotton tending to result in more mussing, and the rayon blend making ironing even easier. One questioner reported experience with unsatisfactory stabilization in a 65/35 Terylene-rayon blend. The speaker stated that this condition was undoubtedly due to faulty finishing rather than to any inherent fault in the blend. DuPont's investigation disclosed that no great advantage had been found in trying to keep cotton on the surface to give added comfort, the fiber ends or loops being desirable to conduct moisture away from the skin. As a matter of fact, it was claimed that the higher moisture regain of cotton or rayon actually leads to discomfort in cold or hot, humid weather.

Core-Spun Yarns

The authors reviewed the literature and patents covering the production of various core-spun yarns and described their new approach with the objective of incorporating the high-tenacity properties of Terylene with the surface properties of cotton. Of primary interest was the production of woven fabrics which could be readily proofed and coated by conventional methods. Examples were given of industrial fabrics such as tentage, tarpaulins and hose ducks, all exhibiting high tensile strength-weight ratios, good waterproofing or adhesion of elastomers. Another core-spun product, sewing threads, featured advantages over 100 per cent Terylene of overcoming thread fusion from high friction and some added bulkiness to aid in filling needle holes. Comparison was made with plied yarns of filament Terylene and cotton, noting savings in production cost, improved spinning, although the plied yarns were advantageous in weaving high density cloths without slashing. Improved cover was also claimed for the core-spun yarns. Details of weaving and heat-setting were included in the paper.

In reply to a question from the floor, the speaker stated that such core-spun yarns were not of particular interest for dress goods constructions. Another questioner brought up the superior properties of flax to cotton in hose ducks but no data was available on a comparison in application of the core-spun principle. The Taslan bulking operation was considered too costly to yield improved cover and adhesion properties. The authors advised that it was planned to extend their study to combinations with rayon and flax replacing the cotton.

H. P. Stout of the British Jute Trade Research Association spoke briefly on the results of his study of how the blending of rayon fibers of different lengths and deniers affected the properties of yarns spun on the jute system. Emphasis was placed on the versatility of the jute system which allowed the use of fibers ranging in length from one to eight inches and in deniers from 4½ to 50. Among the properties which were discussed were levelness, strength, elongation at the breaking load, hairiness and resistance to abrasion. It was observed that the availability of uniform cut lengths of the man-made fibers permitted use of the most suitable length to give improved processing and that shorter staples required the use of higher twist than did long-staple fibers to achieve maximum strength. Also, the use of longer and finer fibers resulted in giving improved wear-resistance.

Although the experimental work was carried out on yarns prepared and spun on the jute system, similar effects of fiber dimensions would be expected to arise on any other system. During the discussion period opinions were given on the effect of the number of fibers in yarn cross-section on yarn strength. Mr. W. Von Bergen, J. P. Stevens & Co. Inc., called attention to the work done at the Textile Research Institute, Princeton, N. J., in determining that for a worsted yarn a minimum of 40 fibers in cross-section was required to yield optimum strength and that in spinning 64s, the 2½-inch staple never resulted in as strong a yarn as with the three-inch Australian wool.

The fit of 1 x 1 rib fabrics knitted from blended yarns (wool with Ardil, Terylene, Orlon and nylon) was discussed by T. S. Nutting of the Hosiery and Allied Trades Research Association, noting that in some respects improvements were achieved by blending. The audience was quite critical of the author's selection of wool for conducting his tests as well as some of the details in the techniques used in relaxing the fabrics before making measurements. One suggestion was that unshrinkable (treated) wool should have been employed since this was commonly used in the hosiery trade today.

The speaker originally scheduled to present the next paper on "The Use of the Shrinkage Properties of Stretched Vinylic Fibers in Blends" was replaced by another representative from his company. Unfortunately, lack of proficiency in translation from the French made it extremely difficult to achieve a satisfactory question and answer period. The paper was devoted to a progress report on the utilization of Rhovyl, Fibravyl, Rhovenyl, Intervyl, Retractyl and Rhovyline in uniform fabrics, automobile tops and knitted constructions. Data was presented on the effects of various blends of these vinylic fibers and differing conditions of temperature and time. In uniform cloth the wear-resistance of a blend containing 67 per cent wool,

15 per cent acetate and 18 per cent Fibravyl was said to be four times greater than similar fabrics of all wool and in car top fabrics Rhovyl was claimed to contribute improved reception to water-proofing.

Rhovinyl interlock knitted material with 30 per cent Fibravyl and 70 per cent nylon, cotton or Schappe spun, was said to have the appearance of doeskin and could be embossed to give any desired pattern. Tensile properties and wear-resistance were reported to be exceptionally good. An outstanding development is that of the use of eight to 12 per cent of partially stretched Fibrovyl or Retractyl 30 with wool to yield bulky yarns with a lofty handle, particularly interesting for handknitting yarns. Among the questions asked was one regarding any trials which might have been made with tow and another as to whether Orlon would be just as effective. The replies indicated that only limited work had been done with tow and that Rhovyl exhibited a higher degree of shrinkage than Orlon.

Tufted Carpets

Reporting on an investigation of the "Physical Properties of Tufted Carpets," C. H. Sturley and W. T. Westhead, British Nylon Spinners, described experiments made of carpeting composed of 100 per cent rayon, 100 per cent wool, 100 per cent nylon and blends of nylon and viscose. The types of fibers used were an 18-denier nylon, crimped German eight and 15 denier rayon, while nylon content was varied from a low of ten per cent to a high of 75 per cent. Loss of resilience in the 100 per cent wool as well as the 100 per cent nylon was less than that experienced with 100 per cent rayon. Little difference was detected the handle of the various constructions, evaluation being made by six people in a darkened room so that they were not influenced by appearance. Some preliminary attempts were made to correlate performance in use with laboratory abrasion tests, but conclusions were not reached because the 100 per cent wool and 20 per cent nylon-80 per cent wool blend carpets were still in use. Laboratory tests showed preferential wear of the rayon in the 50/50 rayon-wool blend.

Dr. C. M. Whittaker, a retired Courtaulds director, was up to his usual form in being straightforward and critical of the authors' work. For example, he stated that it was not necessary to conduct laboratory abrasion tests to establish what everyone knew, namely that nylon was superior to rayon in abrasion resistance. He also asked whether use trials had been made with the individuals walking on the carpeting wearing crepe rubber soles (considered much more severe in their effects on wear than ordinary leather soles); also, under wet conditions and without frequently cleaning the carpeting and removing the grit which is so damaging to the durability of the fibers. Strong criticism was also voiced of the failure to periodically alter the position of the carpet on stair treads as well as failure to use an underlay (pad) which was normal practice in actual service. Failure to include information on the rate and degree of soiling in the preprint of the paper was also considered a shortcoming.

However, the authors stated that they had observed that there was no obvious difference in the soiling of nylon as compared with wool and that a longer period of time would be required for cleaning the nylon. In response to a question concerning the effects of variations in filament deniers, it was reported that work on this subject was now

in process. A Hungarian delegate stated that they were utilizing a laboratory abrader which allowed recovery of pile between abrading cycles, more nearly simulating actual use. Another member of the audience stated that studies made of the effect of rubber soles on carpet pile demonstrated that the rubber was worn away before either the nylon or Terylene.

Judging from the particular presentation at this conference and the comments among those attending, it would appear that technical investigators associated with both the fiber producers as well as carpet manufacturers in the United States are far more advanced in their studies than the British technicians. It must be remembered that the introduction of man-made fibers in tufted carpeting was pioneered in the U. S. and it is only recently that their manufacture has been undertaken in Great Britain. The number of fibers and blends, manufacturers and research workers among fiber producers are all far greater in this country than in any other and the accumulated data and experience from laboratories and in service, much of which has not yet been published, indicates that in this field, at least, the Americans can claim to be far ahead.

Scouring Blends

The scouring of wool-Terylene mixture cloths, by R. S. Hartley and F. F. Elsworth, was the subject of the morning paper on the final day of the conference. This comprehensive study of the effect of various detergents in the removal of wool combing oil used in the worsted industry was conducted in the laboratories of the Wool Industries Research Association. In general it was found that prolonged scouring was necessary to effect complete oil removal, as compared with relatively simple scouring on all-wool fabrics. Exposure to light, resulting in accelerated oxidation of the fatty oils, facilitated removal of the combing oil from the Terylene. The incorporation of surface-active agents to modify the oils promotes easy scouring.

During the discussion of the paper following presentation of a summary, a representative of Imperial Chemical Industries Ltd., Terylene producers, reported that the industry had recognized the need for a more severe scouring on the Terylene-wool blends as compared with all-wool and the use of a three per cent soap scour instead of two per cent resulted in eliminating any trouble. Mr. Von Bergen remarked that in the U. S. self-emulsifying mineral oils were almost always used and no difficulty was being encountered in scouring of wool-Dacron blends. Even in continuous washers where the scouring time was quite short, residual oil was never over 0.3 per cent. In worsted spinning the use of metallic cards and dry tops prevented any problem of oil removal. It was pointed out that in England it is claimed that spun yarn characteristics are different when oiled top is used and the dry top has not been adopted.

The final presentation was entitled "Finishing of Blended Fabrics Containing Wool with Special Reference to Dimensional Changes," by C. S. Whewell and D. C. Snowden of Leeds University. The work reported on was a continuation of a study originally presented at the 1952 conference. Details were given of experiments with finishing of all-wool blends of three qualities (46s, 56s and 64s) and blends with rayon; also, other series of wool blends with Fibrolane, Courpleta and acetate. A number of factors which affect dimensional changes were discussed in detail including setting, scouring and milling. With coarser wool, the shrinkage is greater with higher percentages of rayon but with 64s wool and 3-denier rayon, shrinkage differences between the blend and 100 per cent wool are much smaller.

Scouring shrinkage varies with the blend and scouring method but in many cases the blends of acetate and some synthetics is less than that in 100 per cent wool fabrics. Fibrolane and Ardil were found to promote shrinkage in milling; most fibers other than rayon result in reduction in milling shrinkage and those containing rayon behave differently according to the fabric structure, yarn twist and wool quality. Comments from the floor stressed the importance of the relationship between bulk densities and shrinkage and it was suggested that more work might have been done in exploring this factor. It was also brought out that in the U. S. investigations were made of the effect of blending nylon, Orlon and Dacron with wool in the 16-ounce army shirting with the final adoption of a 15 per cent nylon blend followed by chlorination of the fabric to give the optimum results.

Summary

Dr. J. B. Speakman of Leeds University devoted just 30 minutes to a summary of his appraisal of the important contributions of the entire conference. He expressed the belief that the research workers had displayed a lack of knowledge of the properties and behavior of the natural fibers and criticized them for failure to characterize the type wool (anti-shrink treated) used in experimental work. He also criticized the use of blends of very unlike wool qualities in some investigations and suggested that the conference would have benefited by having more spinners and manufacturers present. It was proposed that in future conferences there should be closer co-operation between industrialists and institute members to achieve better understanding of some of the practical problems facing the industry.

He stated that the advantages of blends were not always easy to ascertain, suggesting as examples Terylene and cotton for wash-and-wear shirtings, Terylene and wool in skirt fabrics where durable pleats were desired and nylon and wool in blends to improve abrasion resistance. Full advantage should be taken of the virtues of some of the man-made fibers, such as high tenacity, abrasion resistance, low moisture regain and quick drying ability, differential shrinkage to give bulk characteristics and thermoplastic properties utilized in the making of fused collars and for pleating and imparting durable crease-retention.

Dr. Speakman commented on the apparent neglect of understanding of the behavior of some blends in tailoring and recommended closer co-operation with garment manufacturers who were accustomed to handling fabrics of wool which behaved quite differently in being shaped to fit the body by pressing. Also suggested was more study of the effect of variable staple length in processing and other possible means to obtain better blending on present machines. He singled out the Taslan bulking process as one which was most interesting and ingenious in its ability to modify filament yarn characteristics and to contribute a new blending technique.

The writer has been present at five of the annual Textile Institute Conferences since they were organized after the war and considers it unfortunate that more Americans have not been able to attend these international meetings. As

is the case in every technical meeting much is to be gained by every participant not only in the open discussion of the papers which are presented but also in the informal association with technical men from all parts of the world.

With reference to this year's conference in particular, in view of the increasing interest in the use of cotton and rayon blends, a report on the most recent developments in blending, processing, dyeing and finishing, fabric properties and utilization would have been a most welcome contribution. Considerable work has been carried out in this country and abroad in the investigation of such blends, of particular interest because of the marked advances made in recent years in improving rayon staple characteristics while maintaining its position as the lowest priced man-made fiber. While the synthetics have much to offer, improved or modified rayon staples now under development are not to be overlooked and promise to help this earliest of the man-made fibers retain its lead over all others.

Market Research Conference

Marketing Opportunities For Textiles

This is a report of the second Textile Market Research Conference sponsored by the National Cotton Council and held in New York City May 6-7. Various discussion points include sales analysis, sales forecasting, new textile applications, operation of market research department, positive selling and many others. The general theme of the conference was "Marketing Opportunities For Textiles."

THE second Textile Market Research Conference sponsored by the National Cotton Council was held May 6-7 in the Hotel Statler, New York City. The theme for the conference, which was under the general chairmanship of J. M. Cheatham, president, Dundee Mills Inc., was "Marketing Opportunities For Textiles." Discussion topics included sales analysis, sales forecasting, market measurements by geographic areas, estimating sales of new products, appraising new plant investment and evaluating new distribution channels.

The first morning session heard a report from the Textile Analysts Group of New York concerning applications of marketing research in textile companies and their contributions to profits. The report was made by Walter Schaefer, director of market research, Cone Mills Inc. and chairman of the analysts group. He told the conference that, "almost any session on the outlook for textiles is likely to be characterized by gloom," but that the report of this group would be intended to count the industry's blessings. He said that among marketing people, "there is a broad measure of agreement that the industry is sure to have an expanding market in the decade ahead."

The view that apparel has less inherent appeal than automobiles, washing machines and the like has "too long gone unchallenged," at least as applied to women, he said. Advertising people know that many women actually buy newspapers in order to look at the department store advertising. Such advertising always competes favorably with the amount of time given to the front page.

Schaefer told the conference that even with the growing market and sustained interest in apparel, improved earnings by textile companies are not necessarily a resultant. The earnings outlook is "dimmed by such factors as overproduction, stop-and-go operation, sharply competitive pricing, inability to adjust production rapidly to demand and frequent inventory losses." Marketing research is of growing interest to textile firms because it is essentially the business of adjusting supply to demand.

Market Research Application

Due in part to intensive efforts by the Cotton Council quite a few mills have created their own marketing research activities, Schaefer said. His group, which has 45 members with 11 from mills and nine from fiber producing companies, is concerned with the application of marketing research. The fiber producers' market research activities closely parallel those of automotive, chemical and electrical manufacturing industries. The principal responsibilities include economic forecasting, sales analysis and sales forecasting, assistance in the preparation of sales budgets, market probing, troubleshooting and assistance in new product development.

The group found that marketing research departments of more than half of the mill members report to a vice-president in charge of sales or the president of a sales subsidiary. One activity is part of the sales promotion department and another reports to a vice-president in charge of advertising, public relations and marketing research. By way of contrast, synthetic fiber companies are more likely to have a chief marketing executive although the activity is sometimes under the supervision of the sales manager or the treasurer or a vice-president in charge of commercial development.

Only two mills have had a marketing research department longer than five years, he said. Most departments are staffed by fewer than five people with one or two men and a secretary being the usual arrangement. The work of marketing research departments can normally be divided into special projects requested by various line officers and regular assignments like economic forecasting, sales analysis, help with sales forecasting and budgeting, and systematic market analyses.

Economic Forecasting

"Because of the cyclical character of the textile industry and the adverse effects on profits of stop-and-go operation and unbalanced inventories, economic forecasting would appear to be a fruitful area of application for marketing

research," Schaefer said. He added that little progress had been made by the mills in placing this function on a professional basis. He quoted an executive of one company as saying, "unless you're big enough to do the job really well, it shouldn't be done at all." He said the task is always done in every company but most of the time it is done by a line executive who examines the business climate generally, the willingness or reluctance of customers to buy or assort contracts, collections or innummerable other indicators. Schaefer said the right question to ask when thinking of economic forecasts is: "Can systematised professional economic methods do a better job than line executives can by the seat of their pants?"

Wall Coverings

Charles W. Russell, Cotton Council market analyst, reported to the conference in a speech entitled, "Wall Coverings—A Billion Yard Potential." He said some manufacturers of coated fabric wall covering have doubled production in the past four to five years and sales are still climbing. Members of the trade expect their volume to grow rapidly and estimate that between 25 and 35 million yards were sold in 1957. The wall covering is made by coating a textile product, usually cotton, with vinyl, rubber, oil or other material.

"Greatest opportunities for immediately increasing sales of fabric wall coverings are in the field of promotion," Russell said. Educational work is needed to acquaint consumers with advantages of fabric wall coverings and to enlist the support of architects, decorators, designers and painting contractors.

Potential Volume

Some idea of the potential of this market was indicated by Russell in statistics from a preliminary study. Fabric wall coverings have a residential market potential of 3.5 billion square yards. This is increasing at the rate of 95 million square yards annually. This figure includes the kitchens and bathrooms of all dwelling units in the U. S. meeting minimum standards; all the wall area in halls and playrooms of owner-occupied buildings; and one-fourth of the wall area in living rooms, dining rooms and dens. If all guest rooms in all year-round hotels with more than 25 rooms are included, there is a total potential of more than 80 million square yards for these rooms. Combined with heavyweight materials in corridors, lobbies and so forth, there is a potential for a total of more than 100 million square yards.

Several producers have listed hospitals as the number one customer for fabric wall coverings. The total potential amounts to many millions of square yards if only the wall area of patient rooms and wards are included. There are nearly 7,000 hospitals with a bed capacity of more than 1.6 million.

Russell said that some 20 million square yards would be needed to cover wall areas in 285,000 rental units in large motels. Unit sales for eating and drinking places have ranged from 10 to 1,000 yards. There are 127,488 restaurants and 94,413 drinking places with payrolls according to the 1954 Census of Business. Churches, schools and office buildings were also cited by Russell as being large potential users of fabric wall coverings.

In the business climate of the future, soft goods stand to gain according to Louis C. Pfeifle, president, American Institute of Men's and Boys' Wear, in speaking on "Building Men's Wear Markets." He said that "there is no reason why the soft goods industry shouldn't reach a more secure and more profitable plateau during the next expected upward surge in our economy—particularly if we take full advantage of our promotional opportunities." The apparel industry cannot depend on luck or accidents to better its situation. It must move forward by its own actions and ingenuity.

The industry has centered its promotional campaign around the "Dress Right, You Can't Afford Not To" slogan. This, Mr. Pfeifle said, does not mean dress up or dress down. It means dress appropriately. It means to dress in the clothes that fit each occasion.

Rainwear Growth Potentials

Miss Trienah Meyers, U. S. Department of Agriculture marketing service, speaking on the subject, "Rainwear—A Growth Opportunity," pointed out that it rains about a third of the time in cities like New York and Washington. Present rainwear for postmen and policemen, by anyone's standards, "is miserable," she said. "Better rainwear may be available some place," she said, "but if it is, the Post Office has not made it generally available." Most policemen still wear the cumbersome, rubber models during the rain and then pile it on the street while they continue to direct traffic after the rain is over, she said. Pointing up the market potentials for textiles in rainwear she asked, "Why doesn't someone take the initiative and produce a sturdy but lightweight fabric raincoat?"

The market potential for rainwear in the U. S. includes at least 150 million people as of 1958, she noted. Population is increasing and except for occasional economic setbacks the long term view shows income and the level of living improving, thereby providing a large future market. She said a large portion of the rainwear market has been lost to plastics even though they are lacking in style, tear and discolor and are miserably uncomfortable in all seasons because of lack of porosity. They are generally hot in Summer and cold in Winter, she said.

Miss Meyers made some special recommendations for various types of rainwear. For special occupations—complete replacement of heavy rubberized coats and boots. For women and girls—capitalizing on the fact that fabrics are preferred over plastics; emphasizing dual purpose coats for teen-agers and dual purpose extra coats for women; improving head coverings. For children—adding zip-in linings for boys' raincoats; producing coats with head coverings attached; producing water-repellent fabric gloves; directing advertising toward protection of clothing and children's health. For men—improving footwear for rain; water-repellent trousers; improving raincoats and making raincoat bags convert into hat coverings. For all reainwear—improving water-repellent finishes or producing something for cleaning establishments to use that will not eliminate the finish.

"Keys To Bigger Sales Of Carpets And Rugs," was the title of a presentation by Eugene V. Connett and William A. Reynolds, advertising director and economist, respectively, American Carpet Institute Inc. Six keys cited in the talk were package pricing, credit, in-home selling, trade-ins, shift from the square yard to the square foot in advertising and proper exploitation of the new home

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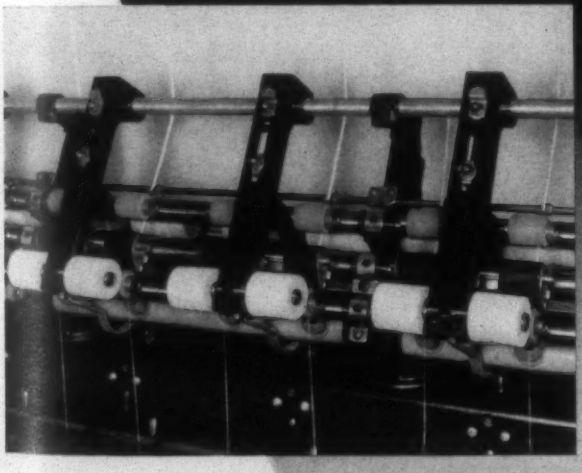

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market. They pointed out that although 12 out of 14 women prefer carpeting to any other type of floor covering, sales did not increase for 30 years.

Universal adoption of package pricing and credit selling in retail advertising and the elimination or de-emphasis on yardage price comparatives would eliminate consumer suspicion which is holding up rug sales, they said. A quotation to a customer should include: (1) total price; (2) dimensions; (3) padding, installation and labor costs; (4) how much down; (5) how much a month; and (6) how many months.

In-home selling overcomes the customer's hesitation by letting her see the specific fabric in her own living room. Connett said that most retailers estimate that they close out seven of ten sales in the home compared with three out of ten in the store. He also pointed out that about a million new home starts are expected annually in the next few years. This will offer a market for 540 million square feet or 60 million square yards of carpet. "Consumer demand for mortgage financing of our product is going to become even greater when they realize that builders can offer carpet and padding installed directly on subfloors or slabs, at a saving from $5 to $6 per square yard, simply by eliminating the conventional finished floors," he said. Some 40 per cent of new homes are slab constructed.

New Applications

Richard D. Wells, assistant director, Fabric Research Laboratories Inc., addressed the conference on the subject, "Expanding Markets Through New Applications." Wells listed six conditions necessary for increased use of textile products. He said that the industry must: (1) *Think Big*, never be satisfied with just a toe in the door if there is opportunity to move in and take over; (2) recognize that some of the biggest potential uses for textile products are presently controlled by interests certainly indifferent if not actually hostile to the textile proposition; (3) see that to be a success at all, a new application must be a *big* success and that a demand must be a general demand or the project will fail in total; (4) shoot for targets where the properties of textiles have unique advantages and once established are not likely to be "knocked off" by competing materials; (5) choose situations involving considerable other investment and standardization of systems all completely dependent on the utilization of the textile component; and (6) take as a goal applications where the textiles will be in frequent and rugged service, not a one-shot proposition, so that replacement business is constant and assured.

Wells named a number of possible new applications for textiles including wide insulation quilts for unfinished attics, saving bother of loose insulation or tacking-in separate narrow batts. He said roller towels, in ornamental fixtures for kitchen and bath, and serviced by local laundry or diaper service with counter-flow, continuous laundering and drying ranges, would provide large volume use. A pressure-sensitive fabric underlay for tile flooring could be devised to save the chore and mess of cementing. The underlay would also allow the shifting of tiles to even-out wearpatterns. A system of fabric covered slip joint ducts for heating and air conditioning systems with pre-formed angle and division sections could be made. Another new application would be light-weight and decorative ground cloths for picnics, sunbathing, baby crawling and available for emergency and Civilian Defense requirements.

Pre-fitted replacement or dust covers, sold as part of the original purchases of outdoor or house furniture for little additional cost was also cited as a new application. As were under-eave disappearing awnings of simple and sound design. The awnings would be motorized for convenient setting at desired degrees of projection from the sun. A U-Tow-It camping kit could be supplied fitted with light trailers, tents, sleep bag shells with washable linings, insect netting pavilions, special fabric luggage designed to suspend from tent-poles, collapsible boats and other gear. The equipment would be available on rental for vacation travel or week-end fishing or for purchase.

Excitement And Enthusiasm

This is the year that "will prove business is good for good businessmen," William N. Doniger, president of McGregor-Doniger Inc., said. He urged positive selling to take advantage of the opportunities for new markets. Excitement, enthusiasm, compatibility, and know-how, he said, are essentials in positive selling.

Excitement and enthusiasm, he reminded the audience of textile executives and market research specialists, begin at the top. He noted that the day of the "passive top executive" is gone. Enthusiasm, he added, generates a constant flow of ideas from top to bottom and from bottom to top. He described how a store promotion built around various color themes and McGregor products stepped up sales for a period of several months. He said promotion of "madder colors" is destined to spread throughout the men's wear industry. The "madder look" in all apparel, he pointed out, has bright possibilities.

There are other opportunities for boosting sales of menswear, he added, in wash-and-wear items, student shops, the young male shop, university and young executives' shops. By separating these shops but having them adjacent, stores can cater to the particular tastes of customers, he pointed out.

Clemson To Have Cotton Research Lab

The U. S. Government's decision to establish a cotton quality research laboratory at Clemson College, Clemson, S. C., has called forth praise from segments of the industry. Robert Edwards, acting president of the college said that the college was tremendously pleased to see the Department of Agriculture and all segments of the cotton industry united in a program with basic objectives.

Halbert M. Jones, president of the American Cotton Manufacturers Institute, said the project should be a valuable step in the expansion of facilities for research on improving cotton quality and helping expand cotton's market. The Government's action was characterized as "welcome news" by Ellison S. McKissick, chairman of the cotton committee of the A.C.M.I.

Clemson has been working with the Department of Agriculture and the National Cotton Council for about a year on setting up the program. Clemson will provide space for the pilot cotton spinning research laboratory in its textile school building. This will augment facilities supplied by the department for the laboratory, which is expected to be in operation next year. Some 1,000 spinning spindles and auxiliary equipment will be housed in the laboratory. Initial research will be limited to spinning performance but will be expanded later to include weaving.

Guaranteeing Quality
In Yarn Manufacturing

Methods are outlined in this article for maintaining, perpetually, a predetermined level of quality in yarn manufacturing. This story does not mean to imply that quality in a mop yarn mill can be guaranteed to be as good as that found in a combed yarn operation. It is pointed out here, however, that once a level of quality has been found to be optimum for a specific operation, this level can be guaranteed not to vary, within limits. Thus the quality level is guaranteed.

By GUS GUGGENHEIM, Associate Editor

CAN a guaranteed level of quality and weight uniformity of yarns aid the textile industry in improving the realization of its full profit potential? The answer to this question seems to be a qualified yes with the major qualification being that if the yarn is guaranteed to remain at a given level of quality it becomes practical to assume that the woven fabric will also remain at a given level of quality. Proper exploitation of this fact will certainly improve the selling position.

The stabilizing effect which a consistent quality level of stocks in process would have on the costs involved in yarn preparation lends support to the position that guaranteed quality is high desirable. When any of the preparatory processes run with an excessively high number of end breakages, off-weights, or mechanical breakdowns, it is necessary to concentrate on the trouble spot until the condition is returned to normal. This means that a greater than normal amount of money must be paid to have the jobs run. In addition to the higher labor cost incurred, subsequent processes are also subject to the dangers of having to run poor materials. This may adversely affect efficiency of the machinery and possibly increase labor costs. The situation snowballs as the affected stock moves through the mill. Poor quality at one process plus additional drafting delivers a relatively poorer quality stock to the next process.

Guaranteed quality levels do not mean that yarns made from lower grades of cotton or waste mixes will be as uniform and as strong as combed stock. It does mean, however, that an optimum level of quality, as far as is practicable within the quality of the machinery available and characteristics of the cotton to be used, can be maintained with consistency which would amount to a guarantee.

The effect on cost is quite obvious. Any mill whose spinning is running at an extremely high number of ends down per thousand spindle hours will be forced to either (1) reduce the number of sides per spinner; and (2) assign spare hands or some other personnel to aid the spinner in keeping the ends up; or (3) suffer a loss in machine efficiency due to frames standing with the sides stuck up. All three of these conditions cost the mill money in one form or another and any expense not calculated into the selling price of the goods is bound to affect the realization of full profit potential.

Guaranteeing the quality level in the steps up to and including the spinning process eliminates the possibility of the extra costs and the general inconvenience resulting from blow-ups which last for any appreciable length of time. This can be said with certainty assuming that other factors, such as cotton characteristics, remain constant. The steps necessary to achieve guaranteed quality are, in general, simple in nature and can be grasped by most reasonably intelligent persons. There is no magic involved, only the application of logical thought.

Guaranteed quality begins with accurate control of weights of stock in process. This is a matter of general knowledge and, probably, the idea is firmly fixed in the mind of every mill supervisor. Only the methods of gaining the control and the aggressiveness with which the control is pursued differs. It is felt by many persons in the textile field that the later models of electronic equipment are the best vehicles available for reaching controlled weight conditions. This approach seems the most fertile and allows greatest flexibility.

"There is no magic involved, only the application of logical thought."

Evenness Chart

At first glance to the novice an evenness chart along the center of a piece of recorder paper appears as only a zig-zag line. Obviously, the closer the variations are to the center line, the more even the stock. In times past, the highest and lowest points within each yard of the sample tested was averaged over ten adjacent yards. This average was called the "range of variation."

Experience in testing, some of it bitter indeed, has pointed out the realization that a ten-yard length of tested material is insufficient to thoroughly analyze the stock under examination. Automatic computation of mean variation allows the evaluation of considerable lengths of stock in relatively short periods of time. This factor permits the proper perspective in the evaluation of stock under test. If a ten-yard length of yarn, made under normal drafting conditions, was analyzed, defects caused by the drawing frame would not be seen. However, if 250 yards of the same yarn were analyzed, the drawing variations would be included. The purpose of this explanation has been to draw attention to the difference between material testing and the tested length of the material.

The original means of testing picker laps was to cut and weigh one-yard lengths of lap and manually calculate the per cent coefficient of variation. A more modern method for testing laps is through weighing inch-to-inch lengths electronically. The variation is calculated also by electronic means and expressed as a percentage. The long term or yard-to-yard standard for a good picker lap is .75 per cent coefficient of variation. The short term or inch-to-inch standard for a good picker lap is 2.5 per cent coefficient of variation. The shorter the testing length, within limits, the higher the expected per cent coefficient of variation. This is also true for sliver, roving and yarn testing.

Testing Length Vs. Tested Length

Again it is well to point out the difference in testing length and tested length. Testing length is the increment of sample tested or weighed while tested length is the entire length of sample over which the testing lengths are made. Both components play a large part in the analysis of any sample tested in attempting to gain a guaranteed status for yarn quality.

The feature of the Uster Corp.'s evenness tester which calculates the per cent coefficient of variation is the integrator. This integrator has a memory of one or 2.5 minutes. With the variation of material feed speeds, through the tester, the tested length is varied. As an example, if a yarn is tested at two yards per minute with an integrator memory of 2.5 minutes, the tested length is two yards per minute times 2.5 minutes or five yards. The same yarn tested at 100 yards per minute would have a tested length of 250 yards. If a variation caused by faulty drawing is present in the yarn it would not be detected by the slow speed test. However, it would be included in the total variation of the high speed test and would be indicated by the integrator.

Another comparison to be considered is the difference in Uster's quadratic (CV%) and linear (U%) integrators. When testing and tested lengths are taken into consideration, the mathematician can conveniently express variations as found by the linear integrator in equations of the first order. Quadratic equations, or equations of the second order, are necessary for expressions of the quadratic integrator. The resultant is used in conjunction with the Variance Length Curve and the Index of Irregularity to name but two examples. The pertinent fact remains that all calculations are more easily determined from CV% than from U%.

The convenience of using CV% has made the quadratic integrator a more readily accepted instrument by mathematical and statistically minded laboratories. The complex circuits found in the quadratic integrator necessitate temperature control in the area where tests are performed. Correction factors must be applied in case these temperature controls are not available. The CV% is roughly between 1.2 to 1.3 times greater than U%. The factor 1.25 is a rule of thumb in conversion between the two expressions.

Guide To Guaranteed Quality

The integrator reading, regardless of type, is the guide to guaranteed yarn quality. The instrument is adaptable to various forms of stock such as picker lap, card sliver, breaker or finisher drawing, roving and yarns. Conditions are tested until standards indicating optimum performance for each process are set. Whenever any particular phase of the work is tested and found to be out of the pre-set standards, it is obvious that corrective measures must be instituted. This guarantees that the ultimate quality of the finished product will remain stable.

Too many mills use the eveness tester as a trouble-shooting tool only and actually overlook the advantages of a a good continuous quality control program. The word "overlook" may not be proper in this use because if fully convinced of this advantage, the mill would always depend heavily on the continuous type of program.

Statistical determinations are necessary to find the sample size and the number of tests necessary for adequate testing. Briefly, this determination is found by use of the formula: $N = \frac{(TV)^2}{(E)}$. In this formula N is the number of tests necessary to obtain yarns of guaranteed quality. T is the probability factor which boils down to "what per cent of the time do we want this guarantee to be in effect?" E is the per cent error which we wish to allow on the weight of the stock being tested. V is a symbol used which represents the per cent coefficient of variation. This calculation reveals the number of tests which are required to fulfill the terms of the guaranteed yarn quality level. One could say that by performing so and so number of tests on drawing, the mill could be guaranteed of having drawing sliver which weighs within plus or minus two per cent of the average, 95 per cent of the time. Guarantees for quality levels at each preparatory process can be set in the same manner. A very thorough explanation of this formula and other sample size determinations is presented in the November, 1957, issue of this journal by Burton Case. Huntsville (Ala.) Mfg. Co.

The tracing of defects in a sample is quite elementary. It is necessary, however, to have the individual mill's drafting organization for this work. A defective front roll on a spinning frame will produce a defect in cycles whose frequency is equal to the roll's circumference. A defective second roll on the spinning frame will produce a defect

equal to the roll's circumference multiplied by the draft between the first and second roll. Defects of equal length would be traceable to eccentric roll, bent roll, dirty flutes and worn or loose gearing driving the roll. Knowing the length of the stock delivered by each revolution of every component of processing equipment, it is possible to trace defects to their source by application of simple arithmetic. This is true regardless of the type of equipment used.

Guaranteed yarn quality level starts with a guarantee that the picker lap will remain within a specified standard. This means that the pickers must be assured a uniform feeding of stock which is opened and cleaned in a consistent manner. The pickers must be in good mechanical condition and must be maintained properly. Cotton characteristics must remain consistent, even if poor. The lap quality guarantee is void if any of these conditions change.

Systematic Testing

A systematic testing cycle is necessary on the cards if yarn quality can be guaranteed to remain at a particular level. Cards should be tested immediately after grinding not only for evenness but also for neppiness, weight of fly, motes and strips. Cards should also be tested at periods between grindings in some cases. This is true particularly if the grinding schedule is not based on a rather exact number of pounds processed by the card. This testing procedure may well point out grinding schedules which are not correct. Perhaps the cards are being ground too often or not often enough. Perhaps the maintenance of the cards is not as it should be. Many factors are involved but an adequate testing program will correct faulty practices.

As mentioned previously, drawing frame deliveries must be set on a definite and statistically determined testing schedule to guarantee that yarn quality remains constant. The drawing frame is rapidly becoming the last machine on which faults at previous processes can be corrected. In times past, and in some existing operations, mills have used two process drawing with six ends up, three process roving with two ends up at each process and spinning with two ends up. This arrangement amounts to 576 doublings in the final product. The trend is toward two process drawing, single-process roving and single creel spinning. This amounts to only 36 doublings in the final product. Guaranteed drawing weights are emphasized greatly in view of their growing importance to the quality of the yarn.

Sizings and evenness tests on roving and spinning frames are, likewise, formulated by statistical means. These steps in guaranteeing that yarn quality remains at a constant level do not necessarily mean that drawing weights or roving weights will never fluctuate. The control program is, however, keyed sensitively to detect weight fluctuations which cannot be controlled. If detected in time, compensating weight changes may be made in subsequent processes in order that the final product will remain the same. For example, changes in drawing weights due perhaps to extreme climatic changes or cotton characteristic changes, to name only two possibilities, are detected in time to adjust roving frame drafts so the correct hank roving is delivered.

Dramatic improvements in operating efficiency and job loads may be realized by the guarantee of the level of quality. Blow-ups due to weight fluctuations or many various mechanical causes are eliminated by the application of these steps in guaranteeing the level of yarn quality.

A New Series

Fundamentals Of Leno Designing

By E. B. BERRY
School of Textiles
North Carolina State College
Raleigh, N. C.

PART ONE

Leno weaving, with its crossing of threads, seems to be a problem both to the textile designer and to the weave room man. With a better understanding of the basic idea of this crossing, with a broader scope of its possibilities, with a respect for its limitations, and with a knowledge of the many different loom set-ups possible, both the designer and weaver can create servicaeble as well as interesting fabrics that will sell, when the staple goods are hard to move.

In making marquisette the use of top and bottom doups, in combination, will produce a quality fabric. This will eliminate both the slackener and jumper which are always a problem to the weave room man.

The use of right and left hand doups, in combination, can create most pleasing fabrics. An entire sample line may be made with these variations. The same chain plan is common to all of them with the only difference being the drawing-in draft.

When the design becomes very fancy, the super doups can be employed to create a very elaborate pattern, which can still be made on a dobby loom instead of going to a jacquard. There are limitations here but with a knowledge of the fundamentals of leno designing pitfalls can be by-passed and a practical fabric can be woven.

A plain marquisette can be "dressed up" by the use of a clip spot pattern. This will improve the fabric by giving great "eye-appeal," and still retain the utility of the leno crossing. "Fundamentals of Leno Designing" brings out these ideas and many more which should be helpful tools in the hands of all textile people.

THE term "leno" is used to describe a separate class or group of weaves and not classes or types of cloths. These weaves are a family, with many variations among themselves. They may be used in combination with other weaves, to produce novel and interesting fabrics. The characteristic feature of these leno weaves is the partial crossing of two or more ends in the fabric. That is, the ends will be side by side on one pick; then one end will go under the other and come up on the opposite side on the next pick.

This crossing from side to side performs two useful functions. First, it gives added strength to the fabric. If two fabrics are woven with the same construction, same yarn number, same twist, etc., and one has a leno weave, while the other has any other weave, the fabric with the leno weave will be the stronger. The second function is to give form stability to the fabric. Generally, the leno weave is used in a fabric construction with few ends and picks per inch, such as found in marquisette curtain material. After repeated launderings, the leno woven fabric will look reasonably fresh and crisp, while the same weight and construction plain weave fabric will appear ragged. The ends and picks will be distorted and thick and thin places will show.

Professors Moser, Klibbe, Whittier, Berry and Gaither

E. B. Berry, author of the accompanying series on leno weaving is shown here in conference with other faculty members at the School of Textiles, North Carolina State College. They are Professors W. E. Moser, J. W. Klibbe, B. L. Whittier and J. B. Gaither. Mr. Berry is assistant professor in the school's department of fabric development.

The Callaway fabric dictionary defines Marquisette as, "a light weight, sheer open texture curtain fabric. Usually made with the simple one-and-one leno weave with a crossing before each pick. Also made with fancy leno weaves and with clipped spot effects. Various qualities are made of carded or combed cotton yarns, rayon, nylon, etc. Other uses besides curtains include dresses, millinery, mosquito nets, etc. The term marquisette is incorrectly applied to certain open textured plain weave fabrics; e. g. scrim, voile."

From the above definition it is the partial crossing of the warp ends in the leno weave material that makes this a marquisette fabric. The partial crossing of the warp ends make possible its strength and stability. Some other uses of fabrics made with a leno weave are gauze, ladies wear for dresses and blouses, commercial laundry bags, orange and grapefruit bags and men's Summer shirts. Another application is the binding on each side of the center selvages when fabrics are woven two or more widths on the same loom.

Looms Used

Leno weaves may be woven on cam looms, dobby looms and looms equipped with a jacquard head. To weave leno on a cam loom or dobby loom, several extra attachments may be necessary, such as a jumper motion, an easer or slackener bar and yoke. Conventional harness frames may be used. On the first two harness, special heddles called *standards* are employed (see Fig. 1). They are made male and female, to make a pair. Two pairs of these standards

ASSEMBLY OF "STANDARDS" AND DOUP NEEDLE

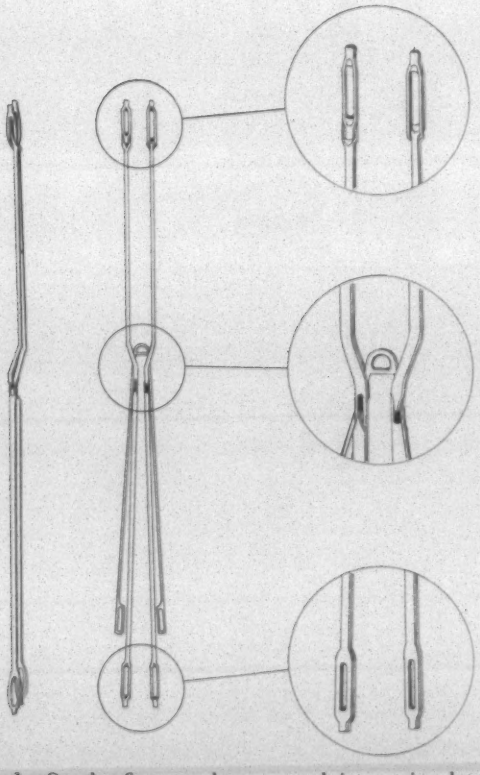


Fig. 1—On the first two harness used in weaving leno, special heddles called standards are used.

DOUP NEEDLES

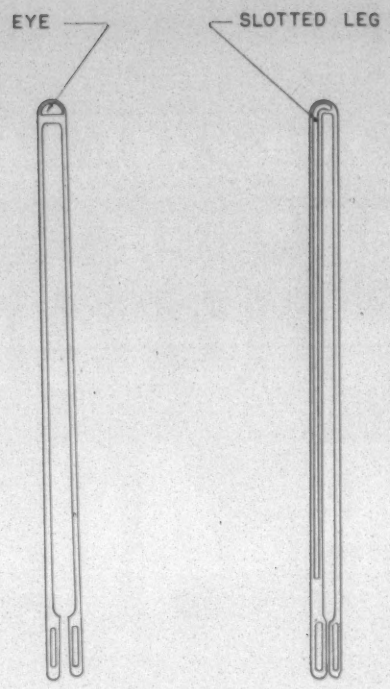


Fig. 2—A male and female are necessary to make a pair of standards. Two pairs of standards are necessary to accommodate a doup needle.

are needed to accommodate a *doup needle* (Fig. 2). This group of five pieces (two male standards, two female standards and a doup needle) are needed for each complete steel doup. On the other harness, conventional heddles are used.

It is difficult to set a loom to weave leno. The loom should be in smooth running condition, with no worn parts. The fixer who sets the loom should be highly skilled and one who has patience to make fine adjustments.

Yarn Used

Only well-spun, even, yarns with relatively high twist multiples (4.25-4.50) should be used. Also the yarn should be free from knots, hairiness, slubs, bunches, soft places, etc. If the price of the fabric will warrant it, combed ply yarns are a distinct advantage. This is helpful in reducing ends down, caused by the strain, when one end crosses under the other during weaving.

The leno fabrics constitute perhaps only one per cent of the total yardage produced in textiles. However, there is no relationship between the time needed to master this one per cent and the value or importance in the industry. In the textile industry, if there is a job to be done, there are many approaches to accomplish the task. The let-off on a loom is a good example. There are the Draper-Roper, Bartlett and friction let-offs. All three let yarn off the beam but have a different method of doing it. In leno weaving too, there are different loom set-ups that will produce a marquisette fabric. From the cloth, it is not always possible to tell which loom set-up was employed. There-

fo , we will have to assume certain basic conditions and m e our deductions from these assumptions.

Crossing Ends

The doup end is drawn through the doup needle, then th ugh the back harness. The ground end is drawn through th ground or jumper harness and between the straddle fo ned by the first and second standards (see Fig. 3).

OPEN SHED
RIGHT HAND - BOTTOM DOUPS

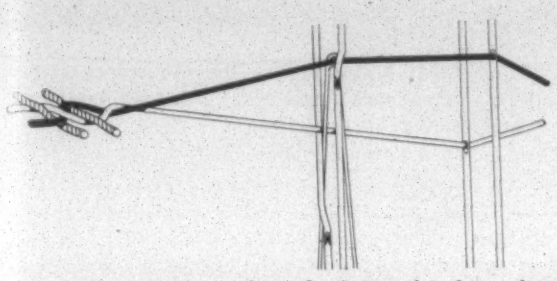


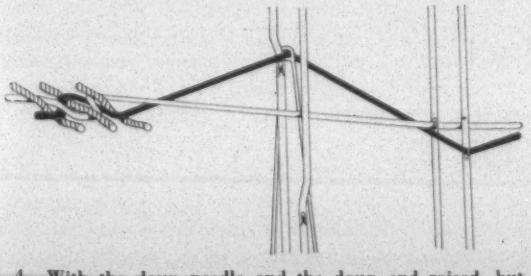
Fig. 3—In the one-cross-one leno, the doup end is drawn through the doup needle and the back harness. The ground end is drawn through the ground or jumper harness and between the straddle formed by the first and second standards. With the second standard raised and the doup end on the right of the ground, this is called an open shed.

This is the one-cross-one leno. Since the doup needle rests between the male and female standards, the doup needle and therefore the doup end will be raised when either the first or the second standard is raised. In this case, the second standard is raised and the doup end is up on the right side of the ground end. This is called an *open shed,* with a right hand bottom doup.

If the second standard is lowered, the doup needle and doup end will come down. The ground end is between the straddle formed by the first and second standard. Now, if the first standard is raised, it will raise the doup needle and thus the doup end but this time on the left side of the ground (see Fig. 4). This is called a *crossed shed,* with a right hand bottom doup.

Plain marquisette is made this way. That is, one pick will have the shed as shown in Fig. 3, then the next pick will have the shed as shown in Fig. 4. It can be seen that in both these sheds, the doup end is raised. With this loom set-up, it is possible to keep the doup end down and have the ground end raised (see Fig. 5). This is

CROSSED SHED
RIGHT HAND - BOTTOM DOUPS



g. 4—With the doup needle and the doup end raised, but this ne on the left side of the ground end, as the first standard is ised a crossed shed is formed.

PLAIN SHED
RIGHT HAND - BOTTOM DOUPS

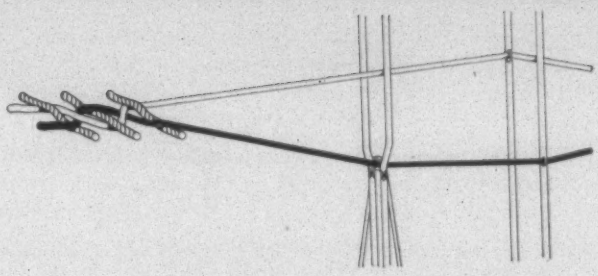


Fig. 5—A plain shed is formed by keeping the doup end down and having the ground end raised.

called a *plain shed* with a right hand bottom doup. All three sheds may be employed in different sequences and arrangements to produce novel effects.

It takes a minimum of three harness to weave one-cross-one leno. It can be woven on four: (1) first standard (harness); (2) jumper or ground harness; (3) second standard (harness); and (4) back harness. The back harness may be eliminated. For the weaves under consideration, four harness will be used.

Slackener

In the open shed the tension on both the ground and doup ends is approximately the same. On the crossed shed the doup end requires more yarn than the ground end in order to make the shed. Unless there was some way of easing or slackening this doup end it would break under the extreme tension. This easing or slackening is accomplished in one of two ways.

POSITIVE SLACKENER MOTION

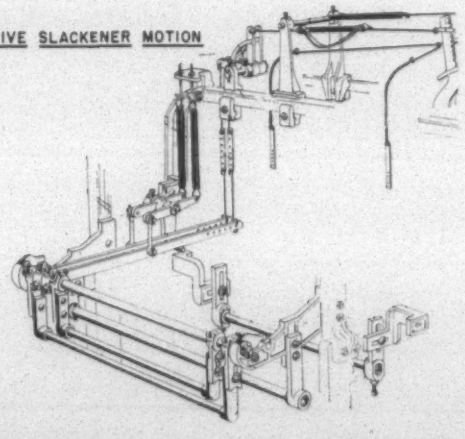


Fig. 6—The positive slackener is a device in which the ground ends go over a stationary whip roll while the doup ends go over a slackener pipe. On the crossed shed, the slackener pipe will move to the front of the loom creating or giving the extra yarn necessary to allow the doup end to cross.

Positive Slackener (see Fig. 6). In this device the ground ends go over a stationary whip roll while the doup ends go over a slackener pipe. On the crossed shed, the slackener pipe will move to the front of the loom creating or giving the necessary extra amount of yarn necessary to allow the doup end to make the crossed shed. This positive slackener is operated through a jack in the dobby head and requires a peg in the chain when the slackening effect

NEGATIVE SLACKENER

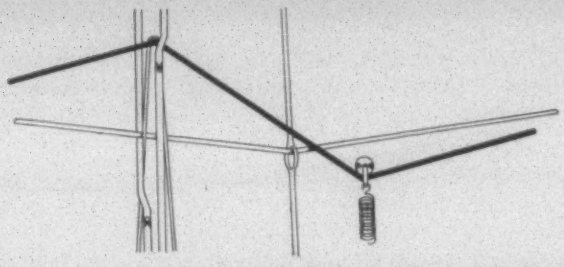


Fig. 7—In the negative slackener the doup ends are drawn under a slackener or jazz bar located between the whip roll and the ground harness. The bar is held by springs and when extra yarn is needed to make a crossed shed the doup ends pull up overcoming the tension on the springs.

is needed. However, no harness is used. This slackener will be used for the weaves discussed.

Negative Slackener (see Fig. 7). The doup ends in this device are drawn under the slackener, easer or jazz bar which is located between the whip roll and the ground harness. Two springs will hold this bar down. When extra yarn is needed by the doup ends to make a crossed shed, the doup ends will pull up this easer bar overcoming the tension on the spring. This action allows the crossed shed to be made. When the standard moves to make the open shed, the springs will return the easer bar to the down position and keep the doup ends tight.

Both right and left hand doups operate under the same general principle but must be kept distinct. Right hand doups will be used unless otherwise noted. The difference between a right and left hand doup is seen when the second standard is up with an open shed. If the doup is on the right it is on a right-hand doup. If the doup is on the left it is on a left-hand doup. The cross shed is most difficult to make and the first standard is used. It will be noted that there is a crossing in front of the standards in going from open to crossed or from crossed to open. However, to determine an open shed check behind the standards. If there is no crossing it is an open shed. This can only be done at the loom and not in the cloth.

If the legs of the doup needle are pointed down, (Fig. 2a) with the eye up, it is called a bottom doup. If the legs of the doup needle are pointed up, with the eye down, it is called a top doup. Bottom doups will be used until mentioned to the contrary.

JUMPER MOTION ON CAM LOOM

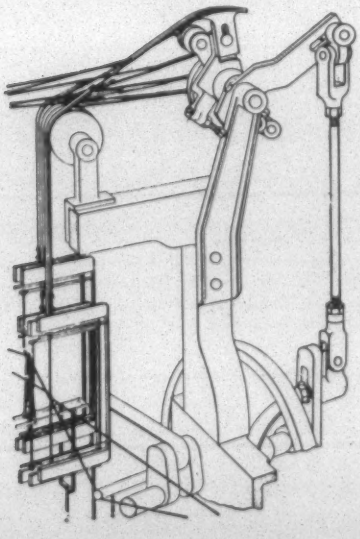


Fig. 8—This drawing shows the jumper motion as applied to a cam loom.

Jumper Motion

The doup end is up on the open shed and up also on the crossed shed. The doup end moves, crosses under the ground end, in order to do this. Since the ground end is down on the open and crossed shed, some means must be devised to raise it up between picks so that the doup end can cross under it. The *jumper motion* does just this. In a short, quick, lifting motion the ground ends are brought up slightly higher than the doup ends so that they may go under the ground ends in their traverse from open to crossed or crossed to open shed. Fig. 8 shows this motion on a cam loom, while Fig. 9 illustrates how it is done on a dobby loom. A harness is used but the jumping is automatic and no pegging of the harness chain is necessary in order to accomplish it.

JUMPER MOTION ON DOBBY LOOM

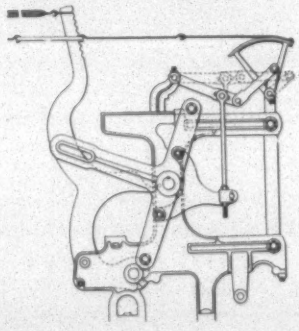


Fig. 9—This drawing shows the jumper motion as applied to a dobby loom.

The first or second standard will raise the doup needle. Gravity alone cannot be counted on to return the doup needle to the down position. The doup needle has two slots in the bottom (see Fig. 2a). Steel ribs are drawn through these slots and a yoke (Fig. 10) is attached to either end of the ribs one on each side of the loom. A spring which is attached to the floor is connected to each yoke pulling the doup needle down when either the first or second standard does not pull up on it. This is true for bottom doups. For top doups the yoke will pull the doup needle up.

Leno Designs

The conventional way to express weaves on design paper is to have painted and unpainted blocks. A painted block is a raiser, the warp end is up, and a blank block is a sinker, the warp end is down. In one-cross-one leno, the doup end is up on all picks but alternating from one side to the other. The accepted way of expressing ups and downs cannot be used. The isometric view will be used to show the ups, downs and crossings in an effort to clarify what takes place in the cloth.

In weaving leno, the chain plan is the same as any other weave. A peg is put in to raise the harness and a peg is

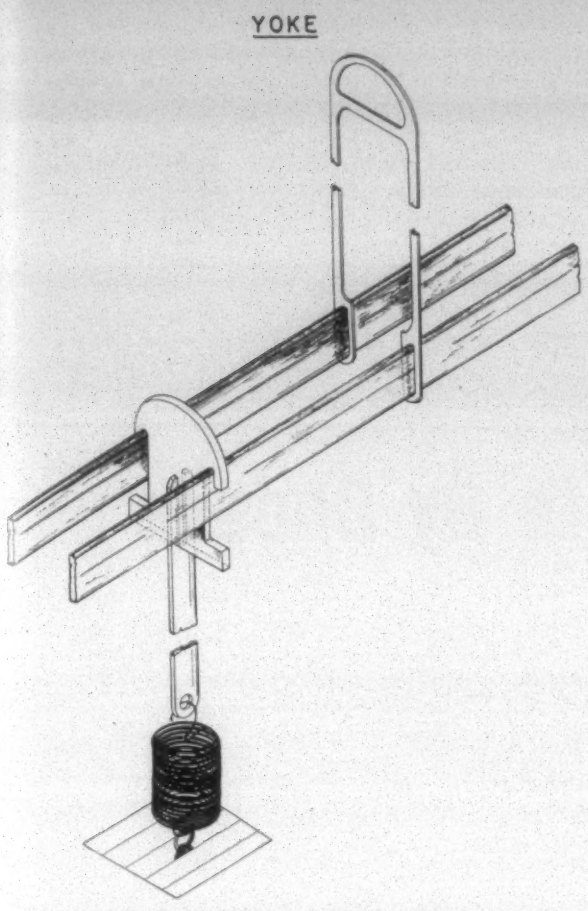


Fig. 10—A mechanical system has been devised to return the doup needles to the down position after being raised since gravity alone will not do the job. Steel ribs are drawn through the slots in the bottom of the doup needle and a spring tensioned yoke is attached to both ends of the rib. The springs pull the doup needles down when either the first or the second standard does not pull them up.

left out to allow the harness to come down. The spaces used do not represent the actual positions in the dobby head. The first and second standards are controlled by jacks number one and two, respectively. The back harness is controlled by jack number 20, (in a 20 harness dobby) whereas it will be in number seven position in the chain plan for the one-cross-one weave.

The drawing-in-draft for leno weaves is somewhat different than for conventional weaves. The crossing must be shown. An "X" will indicate which end is drawn in on which harness. A small white circle will show that the doup end is drawn through the doup needle. Note that the doup end is not drawn in on either the first or second

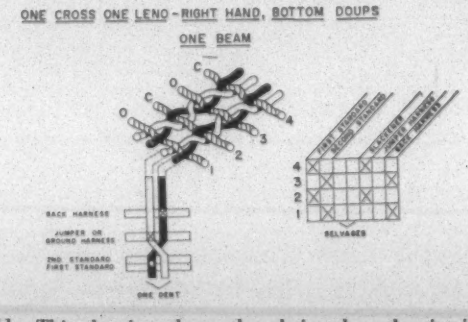


Fig. 11—This drawing shows the chain plan, drawing-in draft, reed plan and an isometric view of one-cross-one leno weave.

standard. It is drawn in through the doup needle eye which is between the first and second standards.

Avoid crowding of the heddles in drawing. When making leno weave fabrics, if there are more than 24 ends per inch it will pay to draw in on two sets of doups.

The two or more ends that cross must be placed in the same reed dent. In medium sley fabrics this may use every dent. In open fabrics such as grapefruit bags where there is a sley of perhaps only ten in the reed a special reeding must be used. Following regular calculations, this sley of ten would require a five dent reed, which is too coarse. Instead a 20 dent reed may be used. The reeding would be:

1 dent 2 ends per dent (the 2 that cross)
3 dents skip
4 dents—repeat 5 times in each inch.

This reeding will use up the 20 dents per inch and will give a sley of ten in the reed.

Selvages

Some mills will run a leno selvage on a marquisette. They will double up on the first several dents and the last several dents. The heavy portion on either side of the fabric will be the selvage. This is a very practical way to make a selvage in that no extra harness are required and no extra beam or selvage spools are needed.

Sometimes a customer may want a plain weave selvage on a marquisette. This presents a problem. The contraction of the warp yarn for plain weave and the one-cross-one may be different. The body may come from a regular beam while the few ends used for selvage may have to be put on spools, one on each side of the loom.

These spools are hard to make, are expensive and must be replaced many times during the life of one loom beam. Also, extra harness may be required. In marquisette, the first and second standards go up and down in plain weave order. It is possible to put conventional heddles on these standards and draw the ends from the selvage spools through these regular heddles. In this way, no extra harness are needed. In all the chain plans shown, there will be two positions, one left open for the selvage if one is needed. No selvage weave plans will be shown.

One-Cross-One

Fig. 11 shows the simplest leno. It is known as the one-cross-one leno. This is the plain weave of leno and is used to make marquisette. Also illustrated are the chain plan, drawing-in draft and reed plan. In the weave, on pick one, the doup end (dark end) is up and on the right of the ground end (white end). This pick is labeled "O" for open shed. How is it possible to tell if this is the open shed? Not from the weave itself. In the chain plan, pick one has the second standard up. If the doup end is on the right it is open shed and a right hand doup.

On pick one, with an open shed, no slackener is needed and it is not pegged to operate. The back harness is raised to relieve the tension on the doup end on the open shed. It is pegged to raise.

On pick two the doup end is up and on the left. This is labeled "C" for crossed shed. If the doup is on the right on the open shed, when it is on the left it is the crossed shed. In the chain plan, the first standard is up which makes it a crossed shed.

On the crossed shed, the slackener must operate and it is pegged to slackener. If the back harness is raised on this crossed shed, ends would be torn out. This is the reason that the back harness is always lowered on the crossed shed.

Pick three is the same as pick one and pick four is the same as pick two. This weave repeats on two ends and two picks. The jumper or ground harness does not have any raisers at all. The ground end is drawn through this harness and the jumper motion works automatically, to lift or raise the ground ends between picks so the dou ends can cross under. Both crossing ends are in the same dent. The reed number will be governed by the sley of the fabric.

Bleaching, Dyeing & Finishing

Dyehouse Don'ts By Dodson

By WILLIAM C. DODSON, Consulting Editor

PART ONE

MOST people, and I especially, dislike to hear the word "Don't"; but for all its unpleasant connotations there is usually back of it some dearly bought experience which right thinking folk want to pass on to others. The Ten Commandments are a series of "Don'ts"; all of them as thoroughly sound today as when Moses first delivered them to Israel.

I do not quite consider that the following items compare too favorably with the Decalogue. I'm just trying to draw a familiar analogy concerning the value of "Don't." Therefore:

(1) *Don't* assume that your water supply is entirely suitable for your dyehouse.

(2) *Don't* assume that your steam supply is, either.

(3) *Don't* assume that your thermometers and pressure gages are accurate.

(4) *Don't* assume that your pump delivery or your rotary machine r.p.m.s are as they should be.

(5) *Don't* assume that your dyehouse and drying areas are properly ventilated and have a clean fresh air supply.

(6) *Don't* assume that your dyehouse lighting is safe for developed colors.

(7) *Don't* assume that your dye scales are accurate.

(8) *Don't* assume that your drug room is safe for the handling of chemicals and colors.

(9) *Don't* assume that greige goods (either yarn or piece goods) are free of stains or other adverse contaminations.

(10) *Don't* assume anything that a little foresight and common sense can substantiate.

So there's your Dyehouse Decalogue, and I am going to try to point up each one of the ten with actual personal experiences. Not any one of these necessarily applies to your mill, but as sure as shooting something comparable to each one *can* occur—expensively.

Item 1. Now you take that basic necessity, water. It may be clear, clean and good for drinking, but it can at the same time be poison to good dyeing results. Even in these days of generally adequate municipal supplies, and with the availability of water softening equipment, you can still have water trouble. Worse still, it's often obscure as to its real cause.

I think of a case which happened years ago in what is now a nationally known seamless hosiery plant located in Winston-Salem, N. C. The mill was, and probably still is, using water supplied by the city. The mill also had a water filtering and softening plant of its own; but trouble began occurring in the dyehouse one Spring—and it was bad. It continued into Summer and then ceased, only to occur again the following Fall. It seemed to be most noticeable in bleached goods. Tender spots developed in the fabric and an occasional very small brown stain showed on finished work. Had this been a yarn processing plant, I believe the same conditions would have prevailed. It was caused by specks of iron rust.

Apparently there was a margin of profit in hosiery back then, because the mill continued to operate, and as I have said, by Summer the trouble either disappeared or became negligible.

By Fall, trouble cropped up again and in a much more aggravated and different form.

Not to drag this out too long, the cause was traced to a new city reservoir which had been constructed a few months before the Spring troubles began. The decaying vegetation on the reservoir bottom liberated an acid forming gas which rose to the upper water layers as warm weather caused the normal water turnover. At first the gas, under pressure in the city mains and dyehouse piping, developed iron rust which showed up in bleaching operations.

By Summer the reservoir waters had reached equilibrium and/or the fermentation of vegetation had slowed down in the cool lower depths, so that the formation of iron rust also slowed down.

This would all have been fine, but the devil jumped out of another corner. This time it was copper in the leading role, not iron. And it all went back to that fine new reservoir which was supplying first-class drinking water to the citizens.

There were no copper pipes in the mill and no known deposits of copper in the area of the reservoir, *but,* as the cooler days of early Fall approached, there was the usual seasonal turnover of lake water with the appearance of vast quantities of green algae near the lake shores and in sheltered coves (no copper yet).

The water works people didn't like to see green scum on their beautiful new lake and they knew just what to do to eliminate it, so they took burlap sacks of copper sulfate and towed them behind a motor boat. They may have sprayed copper sulfate solutions on the more affected areas also. Anyway, they stopped the algae in its tracks, which is what they set out to do.

But they also left a fair amount of copper sulfate in the water supply, and this didn't help a bit in the dyehouse. Colors went completely off the beam.

In due course all this, like most troubles, passed. The bacteria not killed by copper soon finished liberating acid forming gas. Excess iron rust, therefore, stopped forming in the mains. Algae was no longer an eyesore, so copper sulfate wasn't needed. That's all there was to it. The mill survived and is considerably larger today than it was 30 some odd years ago.

Steam

Item 2. The average busy dyehouse uses a lot of steam. Fortunately, steam is seldom the villian in the cast of dyehouse problem characters. However, when it is bad for dyeing purposes it is very, very bad.

When the demand on the boilers is heavy, especially early in the morning and in cold weather, most anything from pipe scale to slugs of iron bearing mud to finely divided gasket material (usually showing up as tiny black or red specks depending on gasket material) can be brought into the dye bath. Since practically all dyeing machines are heated by perforated steam coils, the entrained foreign matter is left in the dye bath for better or worse.

Such visible impurities, however, are not too hard to identify and to correct. Usually a clean white cloth tied over a steam outlet will quickly show such contaminants, and a regular blow-down of the boilers or even additional boilers should remedy the problem of entrained scale, mud, etc. As to gasket material contamination, it's rare, but it is still one of those possible things.

The real sneak thief comes in the form of complex and improper "boiler compounds." These may keep the tubes clean but the wrong ones can come through with the steam and make a first class mess of any dyed work.

I think of the case of a job dyehouse which operated at that time in a large loft building in New York City. This was a hosiery dyeing concern and in those days silk was the product for which it had earned an excellent reputation. The business expanded to the place where the boilers of the loft building could no longer supply all their needs, so they had auxiliary lines run in from a public utility company which supplied steam for heating many office buildings and apartment houses in that area.

The company for which I then worked had supplied this dyehouse with a fine battery of new stainless steel dyeing machines. Everything looked promising to all concerned, and then trouble developed with a capital T. Not a dye lot was completed but what more or less of the goods was impregnated with very small, sticky gobs of some brownish substance. The stuff was insoluble in anything

the mill could safely or economically use, and actual financial ruin stared them in the face. I can well remember seeing one of the owners lying on an inspection table and crying like a child. (He was the emotional type.)

Water, soaps, oils, colors and finishes were tested as thoroughly as our facilities allowed, but to no avail. Finally we tried the old trick of tying a white cloth over a steam outlet. No answer. We even took condensation samples of the steam, but were unable to prove anything—due, I think now, to improper analytical procedures.

Finally, as a last shot in the dark, my company made up a set of closed coils and installed them in one of the smaller machines. That did it, and all the remaining machines were so equipped, as quickly as possible. Later, the job dyehouse was able to collect a substantial sum from the steam suppliers without going through the courts. It was as easy as that, but it had been a little tight in places.

In this case, the steam was probably ideal for heating apartment houses but deadly for open coil use in a dyehouse. What the contaminant was I never did learn and I can't say that I cared too much.

Instruments

Item 3. Thermometers and/or pressure gages can fool you badly—even the most expensive of them—if they are improperly installed in the machines, or if they are damaged later; or if they just need servicing.

Modern temperature regulating and recording instruments require careful maintenance if they are to serve you fully. They are wonderful tools for the dyer to work with, and deserve proper care and periodic checking by a qualified person.

Even as simple an instrument as the old wooden-case, hand-type thermometer, so useful for so many years, should be checked fairly regularly, since the calibrated paper chart on which are printed the degree points has the bad quality of occasionally slipping up or down from its correct position. Any thermometer, either automatic or manual, that gives misleading information to the dyer is a definite liability, and the following is just one case to illustrate this fact.

A few years ago I had sold a pair of specially designed package dyeing machines to a mill in New Jersey. They were equipped with the finest of controls and with all the most modern aids to efficient production. They could be operated as separate units on two different colors, or as one larger unit on one color. They were properly installed in a new portion of the dyehouse and for a time everything went as planned. Too soon, however, the dyer began having difficulty dyeing any pastel shade when using the two machines as one large unit. In spite of all he or we tried, the trouble showed up as slightly different shades in each machine.

Pump speeds and flows were checked, pressure readings were checked, valves and flow lines inspected for obstructions, and yarn sources investigated. Also, one of the first things investigated was the setting of the controls on the two recording thermostats, as well as the recorded charts themselves, but nothing suspicious was indicated, or so we assumed.

We made the mistake of not checking the rate of temperature rise on each of the two charts at frequent time intervals. Later we realized this, but only after the situation had become increasingly serious.

The mill contended that the distribution of dye liquor from the main feed tank was faulty, and that one machine was getting slightly more color than the other. It looked as though they were right, but as a final check we arranged two separate runs using an alkali in place of dyestuff. The same volume was fed as had been color, and in the same way. At five-minute intervals samples of liquor were taken from each machine overflow line and these samples were later titrated.

These titrations were so uniform as to be almost unbelievable, but we still hadn't solved the problem. Therefore, we again began checking the temperature charts in careful detail and there now appeared to be discrepancies at certain critical dyeing temperatures. So we called in a technician from the instrument manufacturers, and he quickly located the cause of temperature differentials in one of the instruments. He corrected this difficulty and so far as I know there has been no cause for complaint since. For one thing, the mill has arranged for periodic check-ups on all its automatic controls throughout the plant. Such service check-ups are inexpensive, and are about the best form of insurance I know of for mills equipped with modern control equipment.

Pump Deliveries And Machine Speeds

Item 4. All modern dyeing machinery with which I am familiar is so well designed and built that pump delivery in gallons per minute is normally as designed. The speeds of the cylinders in hosiery dyeing equipment seldom cause trouble, providing the manufacturer's recommendations are carried out.

If the dyer is observant, he will quickly notice any peculiarities in the pressure gage readings of pump-type machines. He will just as readily recognize any abnormality in the cylinder rotation of hosiery machinery, although the latter is not liable to occur on motor driven equipment. In the days of belt driven machines, however, this was a different story.

There are two main causes of abnormal pressure readings from a machine which has been in service for some time, and both are the result of lint accumulation on screens or impellors. In one instance the impellor of the pump may become fouled up to such an extent that its output is drastically reduced. And this can occur even when the screens, normal to all such machines, show little or no fouling. Gage pressures in such cases fall below normal, and usually do so slowly over quite a period of time. This makes the cause somewhat difficult to recognize, until some unusual occurrence takes place and a thorough check of the machine ensues. Of course, if a sudden fall-off in gage pressure develops, the dyer will have immediate investigations made. Under certain conditions most of an entire package of yarn can be wound up on the impellor hub in the course of one dyeing cycle.

Screens usually stop or minimize impellor fouling, and clogged screens usually show up in higher than normal readings on the gages, although if the clogging is severe enough, the liquor can't get to the pumps fast enough to develop even relatively low pressures. Take your choice.

On some machines the main screens are partially hidden from direct view and as long as dyeing proceeds satisfactorily they are only *occasionally* cleaned, believe it or not.

It takes only a few minutes to check even the most shielded screens and such a check should be periodically routine.

Reasonably accurate flow meters on pump fed machines — plus the usual pressure gages—will give the dyer a pretty good picture of what is going on in his machine during operating cycles. Properly installed, understood and used, these are most valuable aids. But all such aids should be periodically checked against instruments of known condition. Such checking is one of the penalties one must accept for the helpful service of these marvelous instruments.

I've said very little about the effects of too slow and too fast speeds of hosiery dyeing machine cylinders, because there isn't a great deal to be said, except that speeds which are too slow tend to give poor penetration and poor leveling of the dyes. Speeds which are too fast can cause excessive tangling and chafing of the goods. The machine manufacturer is your best source of information as to proper speeds when special types of goods must be dyed.

On hosiery dyeing machines you do (or certainly should) have thermometers. Sometimes these are the simple angle-stem type, sometimes the simple indicating-dial type, and sometimes the more elaborate and useful recording thermostatic type. In either type the bulb is usually located at one end of the tank, or tub as it is sometimes called. On a machine of 200 pounds or greater capacity, a recording thermostat even in good condition may be seriously misleading. This is due to no fault in the instrument, but to the fact that one end of a large machine can be enough colder or hotter than the opposite end to cause redyes. The reasons for this temperature differential are two-fold:

(1) There is poor end to end heat transfer even with the cylinder turning over at from four to six r.p.m.

(2) The perforated steam lines—especially of machines dyeing cotton goods—become clogged with lint and loose pieces of yarn, due to the violent in-and-out movement of the dye liquor when it condenses the incoming steam and is in turn blown back out again.

I have seen lines so badly clogged that they had to be removed and the foreign matter burned out with a blow torch. Usually the clogging begins at the point *farthest* away from the steam inlet, so that in time only that portion of the bath *nearest* the inlet shows true maximum temperature. Periodic checking at both ends of such a machine with a reliable manual thermometer will easily show such a condition as it develops. The remedy is obvious.

(To Be Continued Next Month)

Textile Quality Control Meeting Set

The Fall meeting of the Textile Quality Control Association has been set for September 25-26 at The Grove Park Inn, Asheville, N. C. The first session of the meeting will feature papers on the subject of raw stock mixing by Dr. James Barnes, Kendall Research Laboratories, Charlotte, "Factors Influencing Mixing"; J. N. Little, Anderson, Clayton & Co., "Blending for Quality and Uniformity of Production"; and Louis A. Fiori, the Southern Utilization Research and Development Division, U. S. Department of Agriculture, whose topic was not announced. The session will close with a panel discussion.

An Interesting Innovation

Gas Fired Tenter Frames

THE use of natural or manufactured gas to heat the dryer housing of a tenter frame in a more direct manner is the latest approach to increased efficiency, lower operating costs and wider range of temperatures now available to the textile finishing industry. Most fabrics are tentered to provide the controlled shrinkage and width, uniform and straight edges, and quality required by the converter or, in the case of piece goods, by the ultimate consumer.

Each section of a tenter must maintain a predetermined temperature, dependent upon the fabric being processed, the degree of moisture present in the entering cloth and upon the hand of the existing cloth. The cloth is brought to the machine in rolls or in plaited bales. At this point the cloth may be dry or wet and may be run through a padder where the cloth is uniformly wetted. A small amount of moisture may also be added by a steaming attachment built into the entrance section of the tenter frame.

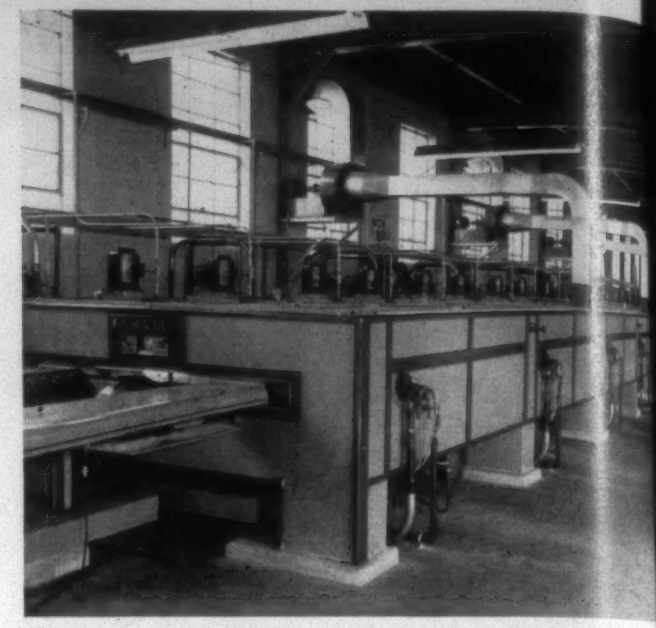
As it is unwound or unfolded, the operator adjusts for bowing or skewing of the weft so that the cloth is uniformly framed. As the cloth enters the machine it passes over scroll rolls which spread it to remove wrinkles and uncurlers which open the selvages. Feeler fingers on each side of the machine sense the edge of the moving cloth and automatically shift the entrance section of the conveyor so that the cloth is gripped accurately and uniformly on its edges.

The conveyor consists of ball bearing mounted pins or clips to hold the cloth. It is adjustably narrowed in each section to allow for cloth shrinkage caused by drying. To provide for shrinkage in the direction of the cloth travel, the cloth is over fed at the entrance end in an exact ratio to the cloth removed from the machine. Because of the length of the machine, wound rotor motors with interconnected rotors electrically synchronize the entrance and exit sections at all machine speeds and during acceleration and deceleration.

Modern tenter and drying frames use high speed hot air impinging on both sides of the cloth to remove moisture. The Famatex tenter and drying frame uses a radiant tube built into the housing in the area previously occupied by the radiator. Inside the tube a radiant tube burner uses natural or manufactured gas to provide a degree and range of temperature previously unobtainable. Furthermore, the design of the tube allows for higher air velocity with a corresponding increase in drying effect.

Flame Control

A typical installation is at Union Textile Printers Inc., Secaucus, N. J. Here, an eight section machine with 16 burners and tubes allows this commission dye house to dry, set, print cure and frame nylon, Dacron, cotton and rayon fabrics at speeds up to 70 yards per minute with drying sections at temperatures from 200° to 450° F. Each burner is provided with individual flame control protection and automatic starting. Each section is equipped with proportioning temperature control which brings the section from a low fire start to required temperature quickly and without appreciable overshoot.



This photograph shows the Famatex tenter and drying frame installed at Union Textile Printers Inc., Secaucus, N. J.

The entire system is interlocked to the electrical system of the machine. During starting, each blower is started in sequence and after it has reached full speed, the ignition system for the burner is energized. Individual blowers and burners may be disengaged from the system. When stopping, the burners and blowers are shut off automatically and the hot air exhausted from the cloth area to prevent overdrying and discoloration of the cloth. Safeties to prevent operation of the machine should over temperature occur, gas or air pressure drop, a burner fail to ignite, or a blower stop due to overload are provided throughout.

High Efficiency

Because the entire radiant tube system is built within the confines of the compact, well insulated housing, the over-all efficiency is high and the response to temperature changes rapid. The low, attractive silhouette of the machine has been retained and maintenance simplified. For mills without the additional steam capacity required for a steam tenter and dryer, the gas fired machine is interesting in terms of capital investment.

This tenter and dryer is built in West Germany by Famatex G.m.b.H. and sold in the United States by Robert Reiner Inc., Weehawken, N. J. Over 500 of these tenter frames have been built since 1946. They are installed throughout Western Europe, in South America and in India. About 20 machines are installed in this country in mills such as Burlington Industries, Collins & Aikman Corp., Sidney Blumenthal & Co., etc. Several machines for cloth and yarn development are in use or in the erection stage at Celanese Corp. of America, Tennessee Eastman Co. and Dow Chemical Corp.

Stayed Steamed Up

Some Timely Tips On Steam Traps

By LYNE S. METCALFE

THE importance of an adequate and dependable supply of steam in textile mills is clearly recognized by not only the plant power distribution engineer but also by the processing or production man accountable for product quality and output. It is important that this steam supply be delivered with utmost efficiency and control to the working surfaces of the equipment.

One of the most significant considerations in the efficient use of steam by the industry is the choice and correct installation of the proper steam trap. Traps are used for such purposes as in space heating; draining noble combs in wool and worsted systems; dyeing, bleaching and finishing; and for unusual boiler room uses such as dryers (air heaters and cans), main separators, jacketed mixing kettles, etc.

Great advances have been made in the design and application of steam traps which are the product of a widespread and well established industry with many years of research, development and applications experience. In line with this progress in design and manufacture, the industry has also made available valuable engineering counsel for the benefit of steam users in all fields but particularly where special needs call for special applications.

Type-Purpose Relation

The steam trap is not merely an interchangeable piece of hardware. It is of the utmost importance that the proper relationship between the type of trap and its application be carefully considered. Only by this means can the processing man responsible for turning out the product be sure that neither output nor quality uniformity are curtailed by the inefficient use of steam. The trap deserves some close study by the man responsible for steam supply. It has been said: "The problem of steam trapping and air-venting starts at the boiler stop valve and ends at the condensate receiver."

Yet, it is clear that some slight confusion may exist among those responsible for steam supply and utilization because they tend to look upon the steam trap as just another pipe fitting. Another possible source of confusion is that there are four types of steam traps available. Each type has features adapted to special needs, conditions and requirements.

A modern steam trap is, after all, primarily an automatic valve. Its function is to release condensed steam (condensate) from a given steam space and to prevent the loss of live steam. A good trap also releases incondensable gases or air which may reach it from steam space. The problem of the steam user is not simply to install traps that will work but to benefit by traps that will give the best output, with maximum economy.

Selection Eased

The four recognized types of traps cover a wide range of applications. Once their various features and principles are clearly understood selection becomes easier. The user may feel sure that all steam traps made by reputable manufacturers are efficient and effective in operation.

It should be recognized by the user of steam that the steam trap, which is an automatic device, must provide a way of choosing between steam and condensate. Differences in traps are mainly based on their operating principles.

The four principal types of steam traps are described in the following paragraphs:

Thermostatic—Thermostatic traps work on the difference in temperature between steam and condensate, as it forms at steam temperature. This type of trap discharges condensate after it has cooled. Included in this group are balanced pressure, liquid and metallic expansion type traps.

Mechanical—Mechanical traps utilize the difference in the density of steam and condensate to operate. The two varieties of mechanical traps are float traps and bucket traps. Condensate doesn't have to cool for the trap to function. Condensate is released at steam temperature.

Orifice—The orifice type works on the "throttling" effect of the flash steam generated when condensate is passed

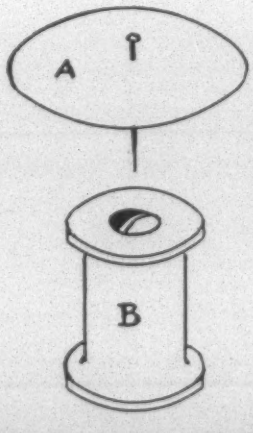


Fig. 1—In this drawing, (a) represents a cardboard disc with a pin in its center resting on top of an empty thread spool (b). Even when you blow hard through the opposite end of the hole in the spool, the disc will remain in position due to the so-called "Bernoulli effect" of an exanding gas.

through one or a number of orifices in series. In its simplest form it is a cracked valve. Developments of this type include the labyrinth and impulse traps.

Thermo-Dynamic—The thermo-dynamic trap operates on the basis of the difference between the kinetic energy of condensate and steam when passing over the face of the valve disc. The disc performs the function of a valve head.

Each of these types has a range of uses for which it is best suited. Only a study of the particular trapping job to be done and the characteristics of available traps is needed to get the best results in a given situation. The most highly developed form of thermostatic trap is the balanced pressure type whose mechanism consists of a thermostatic element filled with a volatile fluid and integral with a valve head.

Thermostatic

This type of trap is made in pressure ranges from vacuum to 300 p.s.i. The element is tubular, with sidewalls of flexible corrugated tubing, and forms a packless gland between top and bottom end caps. A quantity of volatile fluid is sealed in the element under pressure. When cold, the element is contracted by external pressure and the valve is wide open. When in use, air is forced through the valve seat and is followed by cool condensate. When hot, condensate reaches the element. Filling fluids evaporate and pressure builds up in the element. As the condensate approaches steam temperature, evaporation of the fluid builds up internal pressure. The tube expands carrying the valve to the seat. The trap remains closed until the condensate cools and in turn causes the filling to condense. In this way pressure is reduced inside the element. This opens the valve. The trap thus needs no adjustment for varying pressures.

The most advanced design float traps incorporate a thermostatic element as a means of discharging air rapidly from the system on warm-up. The basic mechanism consists of a ball-float, which operates a valve through a float arm and pivot. When first installed, the float is at the lowest point and the valve closed. The air must first be purged from the trap. A balanced pressure thermostat air by-pass is fitted to release initial air. When the steam is first turned

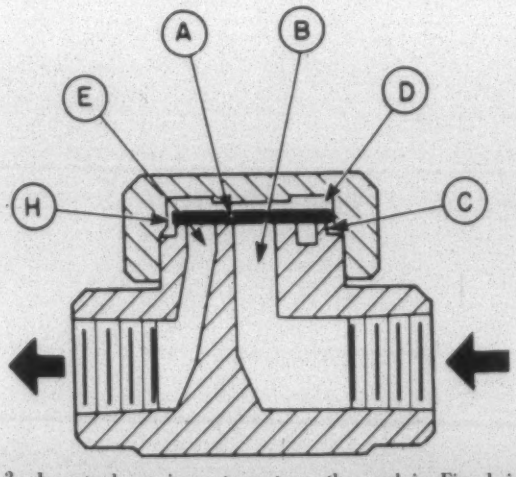


Fig. 2—In actual use in a steam trap, the card in Fig. 1 is replaced by a solid disc (a) and the spool by the inlet tub (b). The disc can seat on top of the inlet tub and an outer seat ring (c). The seated disc seals the inlet and also the chamber (d) from the outlet (e).

on, air is expelled. Condensate flowing into the body floats the ball which opens the valve. The condensate is allowed to discharge. As the rate of flow of water into the trap varies the float rises. This opens the valve more or less to accommodate the changing flow. In the closed position, the valve seat is sealed by the condensate making the valve tight against steam leakage.

Heavy Load Efficiency

It was pointed out to this writer by John Ritter, test engineer, Sarco Co. Inc., that: "these traps are equally efficient on heavy or light loads and on high or low pressures. They should not be used where water hammer is prevalent, because of possible damage to the ball float and thermostatic air vent. Their high discharge capacity prevents air-binding and if correctly installed they are quickly responsive to changed load conditions. The discharge is continuous and varies with the rate of condensation. Stainless steel construction makes them resistant to contaminated condensate."

The thermo-dynamic trap works on a principle which is as old as steam itself. However, this principle has only recently been applied to steam trap operation. The principle has been explained simply by the following analogy or experiment. A card board disc (a) with a pin through the center (see Fig. 1) is placed on the end of a spool (b). Blow hard into the opposite end of the spool. The disc remains on the end of the spool and cannot be blown off.

In this way, the so-called Bernoulli effect of an expanding gas is demonstrated. Air under pressure expands between the end of the spool and the card. The pressure in this space—actually less than atmospheric—and the sum of the upward force is less than the downward force of the atmospheric pressure acting over the card area. This is similar to the principle that keeps an aircraft flying.

In use, the card is replaced by a solid disc (a), shown in Fig. 2, and the spool by the inlet tub (b). The disc is also a valve and can seat on the top of (b) and also on an outer seat ring (c). When seated, the disc seals the inlet and also the chamber (d) from the outlet (e). Thermo-dynamic traps will work efficiently in any position and are not affected by water hammer or corrosion.

Developments in steam traps over the years have been steady and improvements have resulted in notable economies in the utilization of steam with corresponding improvements in output and quality. Steam using equipment of any kind must have an adequate and reliable supply of steam applied to the working surfaces in order to function most effectively. The main objective today is efficiency in the use of steam. This objective is reached by selecting the best steam trapping and air venting equipment designed to meet particular needs and conditions.

Textile Employment Down

Employment of production workers in the textile mill products industry for the month of May totalled 828,000, some 80,000 under the total for May 1957, according to figures given by the U. S. Bureau of Labor.

Average weekly earnings of these workers was $55.58 against $57.60 in the same month last year and $54.90 in April.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

J. E. Killinger

Dr. J. E. Killinger has been named director of technical sales service and field development for Penick & Ford Ltd. Inc. Killinger, who has been associated with the company since 1929, also becomes a member of the firm's Cedar Rapids, Iowa, plant management committee. John Bainbridge, previously with Monsanto Chemical Co. for many years, has been named administrative assistant to Killinger. G. M. Anderson, formerly connected with Penick & Ford's textile department, has been named assistant director of technical sales service for the company's textile division. He will continue to make his headquarters in Atlanta. Penick & Ford recently completed construction of a new and modern research laboratory and substantial plant expansion at Cedar Rapids, and the new appointments are being made to consolidate the technical sales service and field activities of the company.

John Bainbridge

G. M. Anderson

Reid Coward, supervisor of the cost department at the Brighton Division of Burlington Mills, Shannon, Ga., has been transferred to the cost department of the company's main office in Greensboro, N. C. Coward will work primarily in spinning cost.

G. F. Norris has been elected chairman of the board of directors of Norris Cotton Mills Co., Cateechee, S. C. Other officials of the mill are Edgar M. Norris, president and treasurer; T. A. Folger, vice-president and secretary; and R. A. Taylor, vice-president for manufacturing.

Robert Mercer has been named to fill the newly-created position of technical service representative for the Adell Chemical Co., Holyoke, Mass., producer of Lestoil liquid detergent. Mercer's services will be available to textile mills who wish to obtain information on how to use Lestoil products to best advantage in their operation and to assist in solving specific soil removal problems. Before joining Lestoil, Mercer was employed by the General Aniline & Film Corp. as a product engineer. He is a graduate of the New Bedford Institute of Technology where he majored in textile chemistry.

Thomas Killips recently received a 5[redacted] year pin from the 25-Year Club of Foste[redacted] Machine Co., Westfield, Mass., textile m[redacted] chinery manufacturer. Killips is the fourt[redacted] member of the club to receive a 50-ye[redacted] award. New members received into t[redacted] club were Freda A. Borowske, Robert [redacted] Fox, Lewellyn F. Moore and Arthur [redacted] Way. Way, a former director, is retiri[redacted] from the company.

F. Roland McDermott has been elec[redacted] president of the Clark, Cutler, McDerm[redacted] Co., Franklin, Mass., manufacturer of [redacted] Loc and new Wedgmounts for install[redacted] machines. Leo G. Williams has been na[redacted] treasurer of the firm and Henry J. Aim[redacted] is vice-president. Charles W. Rice, vice-president of Whiting & Davis Co., was elected a director.

J. E. Murphy, personnel manager of the Rockmart, Ga., mill of Goodyear Tire & Rubber Co., has completed 40 years of continuous service with the company and was honored recently by plant officials. Murphy began his career with the company in 1918 at the Akron, Ohio, plant.

M. D. Link has been named superintendent of the Rockmart, Ga., mill of the Goodyear Tire & Rubber Co., succeeding P. W. Beggs, who has retired. For the past 13 years, Link has been assistant superintendent of the Rockmart unit. He joined the company in 1929 and served in Decatur, Ala., for 11 years prior to coming to Rockmart. Retiring superintendent, P. W. Beggs, had served in that capacity since 1953. Prior to that he covered assignments in widely scattered points in the company's domestic and foreign operations.

Robert T. Stevens, president of J. P. Stevens & Co., and Roger Milliken, presi[redacted] sented at a banquet in Greenville on October 8.

Four promotions have been announced by M. Lowenstein & Sons. Henry L. Buchanan, assistant to the vice-president, has been promoted to operations officer, coordinating the manufacturing and sales of Huntsville (Ala.) Mfg. Co.; Covington (Ga.) Mills; Aleo Mills, Rockingham, N. C.; Spofford Mills, Wilmington, N. C.; and Limestone Mfg. Co., Gaffney, S. C. . . . Roy L. Coffee, also an assistant to the vice-president, has assumed the position of operations manager for Pacific Mills, Columbia, S. C.; Lyman (S. C.) Cotton Mills; and the Orr Mill and Lyons Division, Anderson, S. C. . . . Bill Allen, chief of

cost accounting, has taken on the additional duties of head of the planning department. . . . Johnny J. Lyons Jr. has been promoted to the post of assistant to Allen.

Joe C. Cobb

Joe C. Cobb, formerly with Reeves Bros., Inc., as manager of its Osage Mfg. Co., Bessemer City, N. C., and Bishopville Finishing Co., Bishopville, S. C., is now available as a management and manufacturing consultant for the textile industry. Since leaving Reeves Bros. the early part of this year, Cobb has devoted his time to real estate interests in Charlotte. As a consultant, he is making his headquarters at 214 Johnston Building, Charlotte, telephone EDison 4-5363. A graduate of the North

T. J. Ault

elected to the presidency of Saco-Lowell Shops to succeed Malcolm D. Shaffner. Shaffner, former president, was recently elevated to chairman, succeeding David F. Edwards, now honorary chairman. Ault is the former president of Long Mfg. Division, Detroit, Mich., and its Canadian affiliate, Long Mfg. Co. Ltd. of Oakville, Ont., manufacturer of heat exchanger and driveline units for motor vehicles. He was also president of Cello Products Ltd. of Galt, Ont., a subsidiary of Long Mfg. Co. Cello Products makes brass solder fittings for Canadian markets. During his 23 years with Borg-Warner, Ault has also served in various capacities at Warner Gear Division, Muncie, Ind., and as president of the former Detroit Gear Division.

A portrait of the late Fred W. Symmes, textile executive who died last year, has been presented to the Greenville (S. C.) Public Library by the F. W. Symmes Foundation. Symmes served as chairman of the library board for 30 years.

Adolph Hart, for over 20 years designer and manufacturer of Hartex finishing machinery for pile fabrics, has announced his association with Proctor & Schwartz to produce for the industry his latest designed finishing machine to be known as the Proctor-Hart pile-fabric finishing machine. New features to be contained in this new Proctor-Hart machine including gas heating of the most advanced design, improved fabric handilng and two or more main cylinders in series contributing to reduced first costs, operating costs and maintenance.

William Morrison has been assigned as a sales representative to the Charlotte, N. C., district office of Allis-Chalmers industries divisions. An industrial management graduate of Georgia Tech, Morrison recently completed Allis-Chalmers' general purpose equipment training course.

W. O. Reed, formerly supervisor of carding, spinning and winding at Peck Mfg. Co., Warrenton, N. C., is now overseer of spinning, twisting, Foster winding, Abbott winding and warping, Bladenboro (N. C.) Cotton Mills, Mill No. 3.

Jack Hopkins

Jack Hopkins has been added to the staff of the Electro-Mechanical Engineering Co., Charlotte. Hopkins is a graduate of Clemson College with a degree in industrial physics. For the past five years he has represented Minneapolis-Honeywell as a sales engineer, specializing in their industrial instruments, control valves and control devices.

Edgar W. Dunham Jr. has been appointed special sales representative to the textile industry for the Shellmar-Betner Flexible Packaging Division of Continental Can Co. In his new position, Dunham will utilize his experience in the textile industry, working on manufacturers with modern flexible packaging ideas and materials. His headquarters will be in Shellmar-Betner's New York City sales office. Formerly product sales manager of yarns for Shellmar-Betner, Dunham has been working with textiles for 17 years. Prior to joining Continental he was connected with the Metlon Corp. and Burlington Industries. He is a textile engineering graduate of Clemson College.

John A. Leddy

John A. Leddy, formerly in charge of research and development at United Piece Dye Works has joined Geigy Dyestuffs, division of Geigy Chemical Corp., Ardsley, N. Y. Leddy, a native of Scotland, entered the textile field as an apprentice with the British Silk Dyeing Co. Ltd., in Scotland in 1932. Following a thorough grounding in textile dyeing and finishing at that Scottish plant, he was given further opportunity for training at that company's plants in Zurich, Switzerland, and at Weil-am-Rhein, Germany. His formal textile education was obtained at the Royal Technical College in Glasgow. Prior to joining United Piece Dye Works, he spent seven years with Burlington Industries Inc. successively as superintendent of dyeing and as plant superintendent of the Burlington development finishing plant at Greensboro, N. C. Leddy is in charge of application research with particular emphasis on synthetic fiber dyeing and finishing. He will make his headquarters at the new Ardsley Laboratories.

James Casserly

James Casserly has been appointed sales manager of the textile division of the Wallerstein Co. Inc., New York City. Casserly will assume the duties formerly handled by J. Andrew Clark who will become technical director of the division. Clark will act as technical advisor to the trade and as director of market and technical research in matters pertaining to the textile industry. Casserly graduated from Clemson College in 1942 with a B. S. degree in textile chemistry and dyeing. He served in the technical sales division of the American Viscose Co. before joining Wallerstein in 1949. During the past nine years, Casserly has represented the Wallerstein Co. in the Eastern territory from Canada to North Carolina. Wallerstein pioneered in the development of a desizing procedure based upon the use of amylolytic enzymes derived from bacterial sources.

H. F. Harris, formerly superintendent of fiberglass throwing and weaving at the Atla Vista, Va., plant of Burlington Industries, has accepted a position as special representative of Greensboro (N. C.) Loom Reed Co. Prior to his work at Bur-Mill, Harris was superintendent of Copland Fabrics; a manager with U. S. Rubber Co.; and superintendent of Greenville (N. C.) Spinners.

Edward T. Taws Jr.

Edward T. (Ted) Taws Jr. has been appointed vice-president in charge of the textile division of the Fletcher Works Inc., Philadelphia, Pa. The division manufactures throwing machines, winding equipment and narrow fabric looms. Taws joined the Fletcher Works in January 1957. He is a graduate of the University of North Carolina and was in charge of the company's sales engineering service for textiles before assuming his new position on July 15. Taws succeeds Jack Harrison who is resigning to join his father-in-law, Charles Moore, at Quality Weaving, Philadelphia.

Dr. Hans Kauffman has been named director of research and development for the inorganic chemicals department of the chemical divisions of Food Machinery & Chemical Corp., New York City. Dr. Kauffman was technical director of the Becco Chemical Division of the company before his present appointment. He joined Becco in 1928. Dr. Kauffman holds a doctorate from the University of Tuebingen in Germany. He is a member of the American Chemical Society, the American Institute of Chemists and the American Association of

Textile Chemists & Colorists. . . . Dr. Oscar H. Johnson has been named director of research and development for the organic chemicals department of the company. Prior to his new appointment, Dr. Johnson was director of research for Niagara Chemical Division. He joined the company in 1946 and has specialized in organic chemical research with both Niagara and Westvaco Divisions. He received his doctorate from the University of Nebraska and is a member of the American Chemical Society and the Entomological Society of America.

Henry Repokis has been promoted from technical superintendent to plant manager of the Johnston (S. C.) Mill of the worsted division of Excelsior Mills, Union, S. C., succeeding George Cocoros who has been named manager of the product development division of Magnolia Industries Inc. . . . H. B. Risher has been promoted from plant manager of the Excelsior finishing plant to general manager of Excelsior Mills, worsted division. . . . J. A. Cross, formerly assistant general manager of the worsted division, has been named plant manager of the finishing plant.

William A. Baltzell, formerly assistant sales manager, has been appointed industrial sales manager for Oakite Products Inc., manufacturer of industrial cleaning and metal treating materials. In his new position Baltzell will be responsible for the work of the company's 17 divisions and 240 technical service representatives throughout the U. S. and Canada. Baltzell joined Oakite's field service staff in 1941. He was appointed Southern division manager in 1946, and became assistant sales manager in 1953. He is a member of the board of directors of the company.

Carl R. Harris

Carl R. Harris, vice-president for personnel and industrial relations of Erwin Mills, Durham, N. C., has been selected to head the 1958 United Fund campaign division which will solicit funds from the major industries and employers in Durham.

Karl H. Helfrich has resigned as vice-president and secretary of Forstmann Woolen Co., Passaic, N. J. Helfrich started with the company 33 years ago in the New York sales office. In 1933 he was transferred to Passaic as assistant to the executive vice-president and became assistant to the president in 1939. He assumed his most recent post in 1952. Helfrich, who is also the president of the American Tariff League, did not reveal his future plans.

Jay Kaner has joined American Enka Corp. as manager of advertising and sales promotion. Kaner comes to Enka from Fairchild Publications Inc. where for the past four years he has been in the advertising department of *Daily News Record*. Prior to this, he was a member of the public relations department of Burlington Industries Inc., having moved there from Fairchild, where he had been fashion fabrics editor on the *Daily News Record*. At Enka, Kaner succeeds Kenneth N. Bacon, who has joined Anderson & Cairns Inc., the firm's advertising agency, as account executive.

Robert Cook Edwards has been named acting president of Clemson College succeeding Dr. R. F. Poole, who died recently. Edwards was named with the mutual understanding that he was not to be considered for the permanent position of president. He is a 1933 graduate of Clemson with a degree in textile engineering. Edwards served as treasurer and general manager of Abbeville (S. C.) Mills Corp. before joining Clemson in 1956.

Three members of the faculty of the Clemson College School of Textiles have received promotions in academic rank. T. A. Campbell Jr., associate professor, has been named a full professor of textiles. Campbell joined Clemson in 1937 as an assistant professor. He holds a B. S. degree from Clemson and a master's degree from Pennsylvania State University. He was formerly secretary-treasurer of Aragon-Baldwin Mills of J. P. Stevens & Co. in Rock Hill, S. C., and textile cost engineer for Ralph E. Loper Co., Greenville, S. C. . . . Dr. W. T. Rainey, associate professor since 1950, has been promoted to full professor of textile chemistry. Dr. Rainey was named head of the textile research department in February. He is a graduate of Davidson (N. C.) College and holds a doctorate in chemistry from the University of North Carolina. He joined Clemson in 1948 as

assistant professor of textile chemistry. Prior to that he was with the U. S. Naval Research Laboratory. . . . J. L. Thompson, assistant professor since 1951, has been named associate professor of yarn manufacturing. Thompson holds a B. S. in textile engineering from Georgia Tech. Prior to joining the staff of Clemson, he was supervisor of Seminole Mills, Clearwater, S. C.

Ed Lipscomb

Ed Lipscomb, Memphis, Tenn., is the first American to become president of the International Public Relations Association. He was elected in Brussels, Belgium, at a meeting of the board of directors. National public relations organizations of 14 countries in Europe, America and Asia are affiliated with I.P.R.A. Lipscomb is public relations director of the National Cotton Council of America and succeeds Odd Medboe of Oslo, Norway, public relations director of Scandinavian Airlines, to the I.P.R.A. presidency. The new president has been a member of the association's central council (board of directors) for three years. Lipscomb is also a past president of the Public Relations Society of America.

Donald B. Tansill, president of M. Lowenstein & Sons, has been elected to the board of the U.S.O. Fund of New York Inc. The U.S.O. Fund will seek $1,600,000 in New York City this year. The money will be used to support 267 servicemen's clubs serving the men of 468 military bases in this country.

Marvin B. Crow has been appointed superintendent of the Victor Plant of J. P. Stevens & Co., Greer, S. C. The position has been vacant since the elevation of P. Jennings White to the position of general superintendent of the Victor Plant in May. Crow came to the Victor Plant in November 1956. At the time of his appointment to the position of superintendent he was overseer of spooling, warping and quilling. He is a graduate of the School of Textiles of North Carolina State College.

Two additional collaborators have been named recently for the cotton mechanical laboratory of the Southern Utilization Research and Development Division of the Agricultural Research Service of the Department of Agriculture in New Orleans, La. They are Louis L. Jones Jr., president of Canton (Ga.) Cotton Mills, and J. Joseph Lyons, executive vice-president of M. Lowenstein & Sons Inc., Anderson, S. C. Both have had many years of experience in the textile industry. Their appointments are an extension of the established practice of obtaining the assistance of outstanding leaders from industry, the universities and other government agencies in developing and maintaining a realistic and effective program. Jones attended the Virginia Military Institute and the Georgia Institute of Technology. He began his working career with Canton, and worked in practically every department before rising to the presidency. Lyons, who now has charge of cotton supply and manufacture for the 14 cloth mills of M. Lowenstein & Sons, holds a degree in textile engineering from Clemson College. He has worked as second hand and overseer in various departments of textile mills and later as superintendent and manager before assuming his present position.

George P. McClenaghan, vice-president and director of J. P. Stevens & Co., has been appointed a member of the executive committee of the company by the board of directors. McClenaghan is in charge of the cotton division, which is composed of 17 plants located in North and South Carolina.

Frank M. Deaver Jr. has been promoted to assistant treasurer of the factoring department of the Trust Co. of Georgia in Atlanta and placed in charge of the new business activities of the department in the entire Southeastern territory. Deaver joined the bank in 1952 and for the past four years has been serving as one of the new business representatives for its factoring department. In his new capacity, he will direct the solicitation of new clients and contacts with clients in the Southeastern states. Deaver is a graduate of Carlisle Military School in Bamberg, S. C. and completed his education at both Emory University and the Atlanta Division, University of Georgia.

Milton J. Greene has been named director of the Hart Products Corp.'s newly expanded textile resin division. Greene joined Hart Products in 1950 and has most recently been in charge of the New England office. He will continue to make his headquarters in New Bedford, Mass. . . . Thomas H. Hart has been appointed director of customer service and sales research for the marketing of the company's new mothproofing agent, Larvatex. Hart has been with the company since 1944 and has headed the Pennsylvania sales office for many years. He has long been active in the American Association of Textile Chemists & Colorists and is a past chairman of the Delaware Valley Section.

R. M. Pully, plant manager of the Clover (S. C.) Mills of American Thread Co., is the new president of the Clover Chamber of Commerce.

Dr. Thomas L. Wilson has been appointed manager of the research center of U. S. Rubber Co. in Wayne, N. J. Dr. Wilson replaces Dr. Arthur E. Brooks, who was recently appointed an assistant director of the research and development department. In his new assignment Dr. Wilson will manage the company's multi-million dollar research center opened last year in Wayne. After obtaining a doctorate degree in chemistry from the University of Chicago, Dr. Wilson joined the company's general laboratories in 1935 as a research chemist. He was appointed head of the laboratory's information and patent department in 1947. In 1954 he was named administrative assistant to the director of research and development, his previous post.

John B. Cornwall, superintendent of the Reeves Bros. plant at Chesnee, S. C., has been named general manager of the firm's plastics division at Fairmont.

OBITUARIES

J. E. Anderson, vice-president of Anderson Clayton & Co., cotton dealers, died July 10 in Houston, Tex. Anderson was a graduate of the University of Virginia and joined Anderson Clayton & Co. shortly after World War I. The company was founded by his father and uncles. He is survived by his widow and four children.

Samuel Yates Austin, 81, former president of Avondale Mills, Sylacauga, Ala., and former vice-president of Callaway Mills, LaGrange, Ga., died early this month. Austin began his career in the textile industry with the Porterdale (Ga.) Mills when he was 16. Later he joined the Whittier Mills in Chattahoochee, Ga., and still later the Callaway Mills organization, where he supervised the building and equipping of Unity Spinning Mills. In 1915 he became general manager of Hillside Cotton Mills and a vice-president of Callaway, in charge of the New York offices. Austin was named president of Avondale Mills in 1940 and a director of Southeastern Cottons in the same year. He retired from Avondale in 1945. In 1946, he was named head of the Textile and Consumer Goods Program for the U. S. in Occupied Germany.

MILL NEWS

CONSTRUCTION, NEW EQUIPMENT, FINANCIAL REPORTS, CHARTERS, AWARDS, VILLAGE ACTIVITY, SALES AND PURCHASES

CARRBORO, N. C.—Carrboro Mills here, a division of Pacific Mills, will be closed at the end of August because of an "impossible business situation." Pacific Mills, which has been operating the mills since 1945, is reported to be seeking a buyer for the two-mill unit. Carrboro produced dress goods and suitings. The mill had employed some 380 persons. With the closing of the mill, Pacific Mills will concentrate on staple worsteds in its women's wear department. The company's current contracts will be fulfilled, however.

GREENWOOD, S. C.—Abney Mills here has completed plans for the expansion and consolidation of its dyeing and finishing operations. According to the company, the dyeing and finishing facilities of the Gossett Dyeing & Finishing Plant at Anderson, S. C., would be consolidated with those of Renfrew Bleachery at Travelers Rest, S. C. Additional buildings will be constructed at Travelers Rest and machinery presently at the Gossett Plant will be moved there. Further installations of new machinery and equipment will also be made at the Renfrew Bleachery, the company reports. The Gossett Plant employs about 60 persons.

MCCOLL, S. C.—Mills Nos. 1 and 6 of McColl Mills here have been purchased by Morgan Cotton Mills of Laurel Hill, N. C. Included in the sale was the yarn making machinery of Mill No. 1 but only the building of Mill No. 6, a weaving mill. The weaving machinery will be removed by the former owner, William L. Barrell Co., New York City. Morgan Mills said that it had not decided how the weaving mill would be used in the new operation. The McColl unit was formerly known as Plymouth Mfg. Co. Division of William L. Barrell. Negotiations for the sale began several months ago.

SENECA, S. C.—The Kendall Co., Boston, Mass., has announced the completion of negotiations for the purchase of a manufacturing plant here. This will make the seventeenth domestic plant for Kendall and will be used for textile operations. The Seneca plant, formerly known as the Abbot Worsted Co., is located approximately 30 miles from the company's largest spinning and weaving installation at Pelzer, S. C. The property is being purchased from the National Life Insurance Co., which had leased the plant to the Abbot Worsted Division of Hubbard & Co. The one-story building has about 100,000 square feet of manufacturing space and 51 acres of land. No manufacturing equipment is involved in the sale. Hubbard & Co. was represented in the transaction by Frank G. Binswanger Inc. of Philadelphia, Pa.

BERRYTON, GA. — Berryton Mills Inc., here, has changed its name to Harriet & Henderson Cotton Mills Inc. A. B. Hammond is president of the firm, which produces 10s to 30s super carded and combed hosiery and underwear yarns.

NEWBERRY, S. C.—In an effort to avoid curtailing operations, the Kendall Co. is making extensive changes in its Oakland Plant here. The company is reported to be moving diaper looms to Oakland from its Pelzer, S. C., plant, putting in print cloth constructions and transferring constructions from other plants. The firm is also moving 66 E-Model cam looms in the basement near the Oakland Plant's cloth room to keep its carding and spinning departments running five days. Changes in the spinning department include the installation of vacuum end collection and new type overhead cleaners. Installation of the vacuum end collection system was completed at a cost of $250,000.

GREENSBORO, N. C.—The finishing division of Cone Mills Corp., a newly created operating unit, has been established to tie together under one managing group all of the company's finishing activities. Sydney M. Cone Jr., a vice-president of the corporation, has been named president of the finishing division. He has named P. C. Gregory Jr., Greenville, S. C., executive vice-president. Gregory is a vice-president of the corporation and has been in charge of Union Bleachery, Greenville, S. C., and the Carlisle (S. C.) Finishing Co. He will have direct supervision of operations at the Proximity Print Works, Greensboro; the Granite Finishing Co., Haw River, N. C.; the Carlisle Finishing Co. and Union Bleachery; as well as of the finishing division sales office, New York City, which will be under the continuing supervision of Harvey Cass, sales manager. Marshall Gardner of Greensboro;, Leonard England of Greenville, and E. E. Jones of Carlisle have been named vice-presidents of the finishing division. Gardner has been general manager of Proximity Print Works and Granite Finishing Co. and England has been manager of the Union Bleachery. Jones joined Cone early this year as general manager of Carlisle. The company has also leased new office space at 111 West 40th Street, New York City, for a new sales office for Union Bleachery, Carlisle Finishing Co. and Proximity Print Works.

WARE SHOALS, S. C. — Riegel Textile Corp. has announced that it will shift its accounting department from New York City to Southern executive offices here to establish an integrated data processing center. John R. Adamson, controller, will move from New York to Ware Shoals, it was reported.

PROVIDENCE, R. I. — Initial orders for Unifil Loom Winders by Drayton Mills, Spartanburg, S. C.; Judson Mills, Greenville, S. C.; and Laurens (S. C.) Mills have been reported by Universal Winding Co. here.

HICKORY, N. C.—Spry & Watson Mills Inc. has purchased some 50 acres on Old Shelby Road near here with plans to erect a mill building on part of the property. The mill is now operating in temporary quarters in Granite Falls, N. C., producing dress fabrics. The owners, Howard J. Spry and G. Scott Watson, are executives of Ivey Weavers Inc. in Hickory and operate the business as a sideline.

KINGS MOUNTAIN, N. C. — Carolina Throwing Co. here, producer of nylon stretch yarn, is planning a two-story addition to provide 3,456 square feet of additional space which will be used for production machinery and storage. The firm is owned by W. K. Mauney Jr., Carl F. Mauney and Howard Jackson, all of Kings Mountain.

NEW YORK, N. Y.—The Collins & Aikman Corp., with plants in Albemarle, Concord, Norwood, Roxboro and Siler City, N. C., has reported a net loss of $121,967 for the first quarter of its fiscal year, ended May 31. A net loss of $131,837 was recorded for the first quarter of last year. Net sales were $8,235,952, a slight decline from the total of $8,526,165 in the same period last year. The sales decline was reported to be due to reduced sales to automobile manufacturers. A first quarter loss had been expected, but the company expressed confidence for a better second quarter.

Chattanooga Yarn Group Plans Meet

George S. Bryan

The Chattanooga Yarn Association, at a recent meeting in Chattanooga, chose a new treasurer and made final plans for the annual outing to be held September 18-19 at the Read House. George S. Bryan, Dixie Mercerizing Co., Chattanooga, was elected treasurer to fill out the term of the late R. D. McDonald. Committee chairmen for the outing are George Bailey, Comer-Avondale Mills, Chattanooga, chairman; R. H. Griffith, Swift Spinning Mills, Columbus, Ga., golf; David Robinson, Walter Forbes Co., skeet; Bob Mebane, American Enka Co., floor show; R. K. (Dixie) Howell Jr., American Thread Co., handicap; Bob Boyd, Leon-Ferenbach Co., hotel reservations; Herbert Upham, Walter Forbes Co., prizes; Frank Carter, publicity; and Pete Morrow, Dixie Mercerizing, registration.

1958 Cotton Acreage Down 12%

The U. S. Department of Agriculture recently estimated the cotton in cultivation on July 1 at 12,402,000 acres. This is drop of 12 per cent from the number of acres in cultivation a year ago. An increase of the amount of land in the soil bank from three to five million acres accounts for most of the reduction, the department reported.

If this year's yield averages the same as last—388 pounds to the acre—production will total about 9,642,000 bales of 500 pounds gross. If the yield comes up to the average for the last three years—402 pounds per acre—the production will total about 10,064,000.

The department sees a mixed picture in the cotton crop outlook. In New Mexico, Arizona and California the weather has been generally favorable and the crop is making excellent progress. Prospects are also very promising in Texas and most of Oklahoma. In all other states, the cool, wet Spring held up planting and the crop is from two to three weeks late, according to the department. Dry soils in late May and early June also held up germination in many Southern states it was reported.

Clemson Textile Curriculum Strengthened

Changes in textile school curriculums have been announced at Clemson College to strengthen work in science, business and humanities while retaining adequate specialization in technology. Effective September, the textile manufacturing course officially becomes textile management, and textile engineering becomes textile science.

"We are giving students the best core of technical and managerial courses that we can," says Dean Gaston Gage. "We are also giving them the usual sound courses in English. Beyond that, the textile management students specialize in the social sciences; the textile science students emphasize the basic sciences.

The revisions in textile management consolidate all textile technological subject matter in fewer credits and fewer class hours. Two semesters of quality control, a course in English—report writing and planning, and three new credit hours of social sciences are added.

The new textile science curriculum provides a stronger

program for students who plan to enter the textile industry than was formerly presented in textile engineering. Basic sciences, including 'must' work in organic chemistry, replaces applied engineering subjects. Chief weakness of the former curriculum, says Dean Gage, was the lack of organic chemistry.

New courses are in the fields of advanced physics, advanced mathematics and organic chemistry, in addition to the two semesters of quality control.

Only minor changes effect Clemson's third degree-giving textile curriculum, textile chemistry. These are largely consolidation of textile chemistry subjects to make room for quality control.

The textile program at Clemson has been under study since last October by a textile faculty committee. Headed by Chairman J. L. Thompson, it comprised Dr. W. T. Rainey, E. A. LaRoche and T. D. Efland. The committee's changes meet the principal criticisms of textile school curriculums—over-emphasis of purely textile technology courses with the corresponding lack of emphasis on social sciences, basic sciences and managerial courses.

Date Changed On Georgia Textile Meeting

The date of the Fall meeting of the Textile Operating Executives of Georgia has been changed to November 8 to avoid a conflict with the Southern Textile Exposition in Greenville, S. C.

Japanese Weavers Suggest Curtailment

Some 1,900 cotton and spun rayon fabric weavers, about two-thirds of Japan's weaving capacity, have recommended production curtailment of 50 per cent instead of the present 30 per cent, to speed the fabric trade's recovery. Stealing a leaf from the American farmer's book, the manufacturers are also asking the government to pay them a subsidy to take 100,000 excess looms out of production and dispose of the machines. The group has suggested a yarn supply quota system to enforce the curtailment plan.

Woolen Industry Association Formed

Woolens & Worsteds of America, a new association representing all segments of the wool textile industry from grower to manufacturer, has been organized to inform the public of the merits of American-made wool products and to stimulate an increase in sales. This projects brings to-

gether for the first time since 1937, various associations in the interrelated manufacturing trades to finance jointly an extensive program on behalf of American-made wool merchandise.

Participating trade associations, which will be represented on the board of directors of the corporation, are: The American Sheep Producers Council; The Wool Promotion Fund, acting for the Boston and Philadelphia Wool Trade Associations; The National Association of Wool Manufacturers; The Northern Textile Association; The Jersey Institute; The Felt Association; The National Knitted Outerwear Association; and The Midwestern Woolen Manufacturers Association. The co-operation of labor groups in the woolen and allied fields will be invited.

Woolens & Worsteds of America has retained the firm of Robert S. Taplinger Associates for public relations and promotion. This organization will supplement the activities of other agencies currently engaged in various phases of wool promotion. An information center and clearing house has been established in New York City at 608 Fifth Avenue with representatives in key cities.

A special insignia has been created to identify American-made wool products. Among the projects planned is the American Wool Bicentennial in 1960 marking the 200th anniversary of the transition of woolen manufacturers from individual homes to organized factories. Other activities include the establishment of an American Wool Month in September; American Wool Designer Awards for the trade, the textile schools and fashion academies; idea awards for inter-industry competition and programs to cope with the problems of competition from imports and to eliminate misrepresentation of non-wool textures as purporting to possess the attributes of wool.

Good Year Seen By Alabama Textile Head

The president of one of Alabama's large textile firms has predicted that a "fairly good" year is ahead economically barring some unforseeable occurrence. Thomas D. Russell, president of the Russell Mfg. Co. of Alexander City, made the prediction to a gathering of employees and their families at the company's annual July barbecue.

"I cannot tell you that we are going to have a boom year," Russell said. "At the same time I believe I can tell you that unless the whole business structure goes to pot, we should have a fairly good year ahead of us." Russell said his company is doing everything possible to "run just as much as we can sell and sell everything we can

produce . . ."

Reflecting on the past year, he noted that despite the general economic downtrend and lower profits, his company's payroll was down only one per cent, or $90,000, from the previous year. "When you consider the fact that last year our payroll was the highest in our entire history, this is not bad at all," he noted.

Whitin Lists Recent Machinery Sales

Whitin Machine Works, Whitinsville, Mass., has announced the following recent machinery installations:

Fieldcrest Mills has installed 16 deliveries of Whitin Even-Draft drawing frames at its towel mill in Fieldale, Va.

Bladenboro (N. C.) Cotton Mills is installing four Hi-Pro roving frames, 96 spindles each, 12" x 6½" x 10", 64 deliveries of Whitin Even-Draft drawing frames, and is modernizing 27 spinning frames with the application of Whitin Super-Draft, involving 6,168 spindles. A Whitin Axi-Flo cleaner has also been installed.

Bartex Spinning Co., Clayton, N. C., has purchased three Inter-Draft roving frames, 114 spindles each, 10" x 5" x 8". They are also modernizing with the application of Whitin Unitrol.

Superior Yarn Mills, Mount Holly, N. C., is modernizing 40 spinning frames with the application of Whitin Super-Draft, involving 9,840 spindles.

Frank Ix & Sons (Virginia Corp.), Charlottesville, Va., has installed two Whitin Speed-Matic filling bobbin winders.

Berryton (Ga.) Mills has installed 32 Whitin Superflex spinning frames, 252 spindles each, 4" gauge, 10" traverse, 2¾" ring, with a total of 8,064 spindles.

Reeves Brothers Inc. has converted 22 Model J combers to Model Super J and has installed a Whitin Even-Draft drawing frame and a Whitin Axi-Flo cleaner at the Mills Mill No. 2 in Woodruff, S. C. An Axi-Flo cleaner has also been installed in the Mills Mill, Saxon Division, Spartanburg, S. C.

Mauney Mills, Kings Mountain, N. C., is modernizing 48 spinning frames by increasing ring size and lengthening traverses. Changeovers are being made by Whitin.

Whitin Axi-Flo cleaners have also been installed in the following mills: Chiquola Mfg. Co., Honea Path, S. C.; Arcade Mills, Rock Hill, S. C., and Tallassee (Ala.) Mill (both divisions of Mount Vernon Mills Inc.); Spray (N. C.) Cotton Mills; Habersham (Ga.) Mills; Opp (Ala.) Cotton Mills; Micolas Cotton Mills, Opp, Ala.; the Mollohon, Addison, Wateree and Oakland Plants of The Kendall Co., cotton mills division, Charlotte, N. C.

Georgia Tech Scholarships Announced

Six scholarships for the study of textiles at Georgia Tech have been announced by The Textile Education Foundation. T. M. Forbes, executive vice-president of the foundation said that the scholarships, valued at $2,400 each, will enable the students to earn either a B.S. in textile engineering or a Bachelor of Textiles degree. The recipients were selected by the Georgia Tech Committee on Student Grants-in-Aid and Scholarships. Leadership and other qualities in-

dicating the potential ability to develop into outstanding textile executives were the principal criteria for the awards. The Textile Education Foundation was organized in 1943 by members of the Cotton Manufacturers Association of Georgia. Its principal purpose is to promote higher education in textiles through scholarships and through contributions of funds and equipment to textile educational institutions.

Flaming Shirt Damage Suit Settled

A $51,000 settlement has been reached in a $400,000 damage suit brought against De Luxe For Boys Inc. and De Luxe Ranch Togs Inc. by Daniel and Rosalie C. Paskow, Richmond, Va. The suit was settled in Federal Court last month. Plaintiffs had asked $300,000 for injuries suffered by their five-year-old son and $50,000 each for themselves. The boy and his mother were said to have sustained severe injuries when a cowboy shirt he was wearing burst into flames. The plaintiffs charge that the shirt did not conform with U. S. Government standards.

Rayon And Acetate Shipments Down

U. S. producers shipped a total of 74,070,000 pounds of rayon and acetate filament yarn and rayon staple+tow in June, according to the *Textile Organon*, statistical bulletin of the Textile Economics Bureau Inc. The June total was 118,000 pounds below May and 8,381,000 pounds or 11 per cent less than shipments in June 1957. Deliveries last month comprised 73,259,000 pounds to the domestic market and the balance for export. For the first six months of 1958, producers' shipments aggregated 455,372,000 pounds, 19 per cent less than the 560,600,000 pounds delivered in the first half of 1957.

Shipments of high tenacity rayon yarn last month came to 17,056,000 pounds, a decline of three per cent from May and 8,118,000 pounds or 32 per cent below June 1957 deliveries of 25,174,000 pounds.

For regular+intermediate tenacity rayon yarn, June shipments amounted to 12,441,000 pounds, 2½ per cent below shipments in May but an increase of 651,000 pounds over June shipments last year. Acetate filament yarn deliveries at 20,017,000 pounds in June were 888,000 pounds above those of the previous month and 3,691,000 pounds or 22½ per cent greater than shipments in June 1957.

Rayon staple+tow shipments in June totaled 24,556,000 pounds, 146,000 pounds below May and also slightly below the 24,689,000 pounds shipped in June 1957.

Producers' output of acetate yarn and rayon was 4,805,000 pounds less than shipments in June, and stocks therefore declined by the same amount to a level of 117,921,000 pounds at the end of the month. Comparable stock held at the same time last year was 116,908,000 pounds.

According to the *Organon*, imports of rayon staple in March totaled 7,590,000 pounds, an increase of 34 per cent over the February figure of 5,669,000 pounds. Imports of rayon staple in the first quarter of 1958 aggregated 20,134,000 pounds, 25½ per cent less than imports in the same 1957 period. West Germany continued as the major supplier of cellulosic staple in March with shipments of 2,046,000 pounds or 27 per cent of the total. Austria shipped 1,418,000 pounds to this country in March, more than doubling her February figure of 542,000 pounds.

Switzerland stepped up its exports to the U. S. from 122,000 pounds in February to 813,000 pounds in March.

Imports of non-cellulosic man-made staple in March amounted to 179,000 pounds as against 124,000 pounds in February. The suppliers in March were Switzerland, West Germany, Canada and the United Kingdom. Cumulative imports of non-cellulosic staple in the first three months of 1958 came to 419,000 pounds as against 106,000 pounds in the corresponding period of 1957.

The results of a special *Organon* survey reveal that domestic producers of high tenacity rayon yarn continue to report shifts in their producing facilities to permit the output of yarns of even higher tenacity. These new yarns are referred to as the Super 2 type in the market. As of this month, total industry capacity amounts to 331,000,000 pounds annually, compared with a capacity of 405,000,000 pounds as of November 1957. Current capacity is composed of 165,000,000 pounds of 1100 and 1650 denier Super 2 tenacity yarn, 141,000,000 pounds of lower tenacities in these deniers, and 25,000,000 pounds of 900 and finer and 1850 and coarser deniers. Thus there has been a substantial reduction of 18 per cent in the high tenacity rayon yarn capacity over the last eight months. This is probably due to a combination of factors such as fewer spinning positions in place, the slower spinning speeds required for the Super 2 yarns and/or a reflection of the noted trend from the 1650 to the 1100 denier yarn. In fact, present indications are that the 1100 denier Super 2 will comprise around 70 per cent of the total Super 2 capacity by the end of this year, which compares with practically no participation for that yarn in the tire business as recently as last November.

An *Organon* summary of broad woven goods production in the first quarter of 1958 shows that total output of cotton, woolen and worsted, man-made fiber, silk and other fabrics totaled 2,972,000,000 linear yards. This was an amount equal to the fourth quarter 1957 but a decline of six per cent from output in the first quarter of 1957.

First quarter production of cotton goods amounted to 2,337,000,000 yards, a slight increase over the fourth quarter of 1957 but 7½ per cent under the first quarter of last year. For woolen and worsted fabric, output in the first quarter totaled 61,000,000 yards, a figure slightly above that of the fourth quarter but 17½ per cent under first quarter 1957 production. In wool goods the principal decline was in men's apparel fabrics.

Production of rayon and acetate broad woven goods was 384,000,000 yards, two per cent over the fourth quarter and five per cent above the first quarter 1957. The *Organon*

notes, however, that the output of other man-made fiber fabrics at 180,000,000 yards was down 9½ per cent compared to the fourth quarter, the decrease coming mainly in 100 per cent nylon filament yarn fabrics.

Tire Cord And Fabric Production Down

Production of tire cord and tire fabric amounted to 427,546 thousand pounds during 1957 as compared with 449,479 thousand pounds during 1956, according to figures given by the U. S. Department of Commerce. The 1957 output was three per cent below the 1956 level and 17 per cent below the 1955 production.

The output of man-made fiber tire cord and tire cord fabric in 1957 was 388,214 thousand pounds. This was one per cent lower than the 1956 production and 15 per cent below the 1955 production.

Nylon tire cord and tire cord fabric represented 22 per cent of the 1957 total (excluding chafer fabrics). In 1956 and 1955, the nylon tire cord and tire cord fabric represented 16 and 11 per cent of the respective totals. While nylon has shown major increases in these years, rayon is still the major fiber used in the manufacture of this product. The 1957 output of rayon tire cord and tire cord fabric was 303,763 thousand pounds compared to 332,662 thousand pounds produced in 1956 and 406,807 thousand pounds produced in 1955.

Cotton chafer fabric production in 1957 was 33,006 thousand pounds or 19 per cent below the 1956 level.

Wool Consumption Down In 1957

Total fiber consumption on woolen and worsted systems during 1957 amounted to 656 million pounds, 11 per cent below the 1956 level of 734 million pounds, according to the U. S. Department of Commerce. Consumption of raw wool (scoured basis) was 370 million pounds in 1957, a decrease of 16 per cent compared to 1956. The 1957 consumption of apparel class raw wool amounted to 241 million pounds compared to 297 million pounds in 1956, a decrease of 19 per cent. Carpet class wool consumption at 128 million pounds decreased 11 per cent compared to 1956.

Cotton Consumption Off

U. S. consumption of cotton during May was 599,690 running bales, a drop from the previous month's total of 729,546 and from the May 1957 total of 670,259. For the

ten-month period through May, the total consumption was 6,774,201 bales against 7,439,461 for the same period in 1957. The daily average consumption was 29,985 bales against 29,182 bales in April and 33,513 in May of last year.

Foreign cotton consumption totalled 5,729, bales in May. Total for the previous month was 6,599 and for May 1957, 6,364. For the ten-month period through May, consumption of foreign cotton totalled 62,780 bales against 56,125 in the same ten-month period last year.

Consumption of man-made fiber staple during May was 31,585 thousand pounds against 36,698 thousand pounds in April and 35,106 thousand pounds in May 1957. The ten-month total was 362,821 thousand pounds compared with 377,731 thousand pounds in the same period last year.

A total of 19,210 thousand active cotton-system spindles were reported against 19,805 thousand in May 1957. The total of hours operated for the spindles was 8,154 million against 10,221 million in April and 9,224 million in May last year. Source of the figures is the U. S. Department of Commerce.

Synthetic Woven Goods Production Static

Production of broad woven goods of man-made fibers and silk was 574 million linear yards during the first quarter of 1958. This was two per cent below the fourth quarter 1957 level but one per cent above the first quarter 1957 output. Rayon and acetate fabric production was two per cent above the previous quarter and five per cent more than the output during the comparable period of 1957. Production of other man-made fiber fabrics, including silk, was ten per cent below the previous quarter and six per cent below the first quarter of 1957. All figures are from the U. S. Department of Commerce.

Cotton Broad Woven Goods Show Decrease

Cotton broad woven fabric production in the first quarter of 1958 was one per cent above the previous quarter but seven per cent lower than the first quarter 1957 level, according to figures released by the U. S. Department of Commerce.

Production of napped fabrics, blankets and blanketing increased 25 per cent over the previous quarter while fine cotton fabrics increased nine per cent. Sheeting and allied coarse and medium yarn fabrics remained practically unchanged. Production for all other major fabric classes decreased from one to five per cent below the previous quarter.

Except for fine cotton fabrics, production for all major fabrics classes during the first quarter of the year was from five to 17 per cent below that of the same quarter last year. Fne cotton fabric production was seven per cent above the first quarter 1957 level. The department points out that the figures should be regarded as tentative because of revisions made in the fabric reference list.

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